

## SITE CONDITION REPORT

## **RE-EPRA-WNA-SCR-006**

**Revision 5** 

July 2024

WNA Permit Variation

## **APPROVAL LIST**

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## 1. INTRODUCTION

Rathlin Energy (UK) Limited (Rathlin) is a private company with its head office in Beverley, East Riding of Yorkshire. Rathlin is a petroleum exploration, development and production company with operations in the United Kingdom. Rathlin is the operator of PEDL 183.

Rathlin has prepared an application to the Environment Agency seeking permission to undertake a number of permitted activities in accordance with the Environmental Permitting (England and Wales) Regulations 2016 (EPR2016).

Rathlin is the holder of a number of Environmental Permits issued by the Environment Agency in accordance with EPR2016. The current activities permitted at the West Newton A (WNA) Wellsite permit Rathlin to undertaken the following activities, as presented in Table 1.1.

Permit Number	Reference	Description			
	AR1	The loading, unloading, handling or storage of, or the physical, chemical or thermal treatment of crude oil with a capacity of 500 tonnes.			
	AR2	The incineration of hazardous waste in a waste incineration plant or waste co-incineration plant with a capacity exceeding 10 tonnes per day.			
	AR3	erate a Medium Combustion Plant.			
EPR/BB3001FT	AR4	storage of additional raw materials directly associated with the production of crude oil.			
	AR5	The use of up to two oil fired bath heaters with a rated thermal input <1MWth.			
	AR6	The use of a diesel generator with a rated thermal input <1MW for onsite power generation			
	AR7	Discharge of rainfall dependent surface water runoff.			
	AR8	A mining waste operation for the management of extractive waste including gas from prospecting for mineral resources, not involving a waste facility.			
EPR/PB3030DJ	1	Accumulation of radioactive waste on the premises.			
(SR2014 No4)	Ţ	Disposal of radioactive waste on or from the premises.			

#### Table 1.1: Current Permitted Activities

An analysis of the well test data and further laboratory testing has indicated the need to undertake a small scale reservoir stimulation to create or reinstate natural fractures in the vicinity of the wellbore. The purpose of the reservoir stimulation is to access the natural reservoir beyond any skin damage, which is a zone of reduced permeability due to the effects of drilling or previous wellbore treatments. The reservoir stimulation falls within EPR2016 and, as such, must be authorised.

As such, Rathlin Energy has prepared an application to vary the environmental permits to include a 'reservoir stimulation', which is groundwater activities under Schedule 22, 8(I) of EPR2016, namely the injection of any substance into groundwater to increase the flow of fluids or gas to a well or borehole in connection with the extraction or use of any energy source.

The 'reservoir stimulation' will produce extractive waste, referred to as Mining Waste under Schedule 20, 2(1) of EPR2016, namely the management of extractive waste, whether or not involving a mining waste facility. In addition, the formation within which the stimulation fluid is retained is considered a 'mining waste facility'.

## 2. SCOPE

This Site Condition Report is applicable to the WNA Wellsite and all operations permitted therein. It is applicable to Rathlin, its contractors and subcontractors and can be used in support of applications to the Environment Agency

under EPR2016. This Site Condition Report has been prepared as part of an application to vary the existing environmental permit (EPR/BB3001FT) and supersedes all previous versions of the Site Condition Report.

## 3. **DEFINITIONS**

#### Table 3.1: Definitions

## 4. WEST NEWTON A WELLSITE DETAILS

The proposed development is being undertaken at the following location:

West Newton A Rathlin Energy (UK) Limited Fosham Road Marton Hull HU11 5DA National Grid Ref: TA 19268 39131

Site Area: 3.46 hectares

A Site Location Plan has been provided within Site Plans Document (RE-EPRA-WNA-SP-004).



Figure 4.1: West Newton A Wellsite Location (Source: Google Earth August 2020)

## 5. SITE CONDITION PRIOR TO PERMIT ISSUE

The following section provides a detailed report on the current site condition of the West Newton A Wellsite at the point of application submission.

## 5.1 Sources of Information

The Site Condition Report has been compiled using a range of information sources, including:

- Envirocheck Report;
- Multi-Agency Geographic Information for the Countryside (MAGIC); and
- British Geological Survey.

## 5.2 Environmental Setting

The site is located to the north of West Newton and east of Marton. It is located within the parish of Aldbrough, in the East Riding of Yorkshire.

The surrounding landscape consists of flat open fields that are interspersed with patches of woodland and divided by hedgerows and ditches. An area of semi-improved grassland lies adjacent to the western boundary and extends 10m into the field. There are a number of mature hedgerows that border the field.

The nearest conurbations are West Newton, circa 1,130m to the south and Marton, circa 800m to the west.

A desktop study was undertaken to identify any designated sites which may be affected by the proposals. The results of the desktop survey using the Multi-Agency Geographic Information for the Countryside (MAGIC) interactive mapping tool have been provided within Table 5.1 below.

Designated Site	Search Radius <sup>1</sup>	Name	Location from Site <sup>2</sup>
RAMSAR	10km	-	-
Special Area of Conservation	10km	-	-
Special Protection Areas	10km	Hornsea Mere	6.93km North
Marine Protection Areas	10km	Greater Wash	5.44km Northeast
Sites of Special Scientific Interest	2km	Lambwath Meadows	0.79km Northeast
Schedule Ancient Monuments	2km	Burton Constable Medieval Settlement <sup>3</sup>	1.93 South
National Nature Reserve	2km	-	-
Local Nature Reserve	2km	-	-
		The Moors Burton Constable	0.84km South
		Wycliffe North Plantation	0.92km Southwest
Local Wildlife Site	2km	Mill Avenue Burton Constable	1.27km South
		Sallymere Plantation	1.70km Southwest
		Burton Constable Parkland	1.77km South

Table 5.1: MAGIC Desktop Study Results

## 5.2.1 Flood Risk

Using the Environment Agency's Flood Mapping tool, it is evident that the proposed site boundary is located within flood zone 1, an area with a low probability of flooding.

## 5.2.2 Geological Setting

The near surface geology across the site is Devensian Period Boulder Clay, which is a thick drift deposit.

Below the Devensian Age Boulder Clay is the Cretaceous Age Chalk, which is designated by the Environment Agency as a principal aquifer of regional importance. The Chalk in the region is subdivided into the following sub-units (in increasing age and depth) Rowe, Flamborough, Burnham, Welton and Ferriby Chalks.

This Chalk formation forms the Yorkshire Wolds, which starts immediately north of Bridlington and runs southwards. The structural dip of the Chalk is to the east north-east with an angle of about 1.4° (1 in 40). To the east of the Yorkshire

<sup>&</sup>lt;sup>1</sup> Search Radius derived from Environment Agency Guidance: Annex A – Opra Scheme for Installations.

<sup>&</sup>lt;sup>2</sup> Location from new site boundary.

<sup>&</sup>lt;sup>3</sup> Burton Constable medieval settlement and field system, north of Burton Constable Hall

Wolds, a buried cliff line, which runs north-south through Beverley, indicates the transition into the lower lying Holderness coastal plain in which thick drift deposits overly the Chalk strata.

A summary of the geology is provided in Figure 5.1 and is derived from a true representation of the subsurface geology encountered during the WNA-1 drilling operation.

System	Lithology	Litho-stratig	anhy	Depth F	Prognosis	
Cystem	Litilology	Entro-Stratig	apily	MD KB (m)	TVD SS (m)	
		Quaternary Boulder Cla	y	Sul 6	face + 13.5	
Upper Cretaceous		Chalk	Chalk Group	49	-30	
Lwr Jurassic			Lias Group	514	-495	
Triccolo		Penarth Group	Mercia Mudstone Group	632	<u>-</u> 612	
Inassic		Bunter Shale Fm.	S.wood Sst. Group	937	-918	
		Brotherton Fm.	EZ4,5 EZ3	1621	-1584	
Permian		Fordon Evaporite Fm.	EZ3 Stein Gro	1000	-1040	Key
		Kirkham Abbey Fm.		1732	-1690	Primary Target Secondary Target
		Hayton Anhydrite Fm. Cadeby Fm.	EZ1	1953	-1905	Limestone Dolomite
		Mari Slate	Rot. Gp.	1995	-1946	Shale Sandstone
Carboniferous Westphalian C			Upper Coal Meas	2016	-1968	Coal measures Anhydrite Halite

Figure 5.1: Encountered Geology at West Newton A Wellsite

## 5.2.3 Hydrogeological Setting

The site is situated on Boulder Clay, which overlays the Chalk formations beneath it. The Boulder Clay is generally considered a low permeability aquitard and is classified by the Environment Agency as unproductive strata within the area of the site. Due to the thickness of the Boulder Clay, it is highly unlikely that there is any hydraulic connection with the chalk. Any aquifers contained within the Boulder Clay are small and are likely to be isolated.

The Chalk formation is designated a principal aquifer by the Environment Agency. The groundwater quality within the Chalk aquifer is understood to be naturally saline (mineralised formation water rather than saline intrusion). Under the Water Framework Directive classification, the aquifer has been designated by the Environment Agency as poor containment quality.

Deeper strata beneath the Chalk, such as the Jurassic, Triassic and Permian formations may retain localised permeability despite their depth, however, these strata are not considered to be economically usable due to their great depth and are likely to possess saline or mineralised (poor) groundwater quality.

## 5.2.4 Reservoir Containment

The reservoir stimulation within the WNA-2 borehole is designed to extend circa 16.4m in a lateral direction and 30m in a vertical direction and will be confined to the primary target formation (Kirkham Abbey), which is 60m in thickness, as indicated in Figure 5.2. The target formation overlays 200m of Hayton Anhydrite and underlays 45m of Fordon

Evaporites, both of which provide an impermeable seal. The formation beyond the reservoir, in the basinal and lagoonal depositional environments, reduces in permeability to such an extent that the 'West Newton' reservoir is hydraulically isolated from the surrounding Kirkham Abbey formation.



Figure 5.2: Cross Section Schematic

## 5.3 Pollution History

## 5.3.1 Pollution Incidents Affecting the Land

The development has been specifically and carefully designed to ensure that all processes with the potential to lead to contamination are contained within areas which are separated from the underlying strata, ground and surface waters. All site operations which have the potential to lead to contamination of the surrounding environment will take place within the compound and the plant which have been designed and installed to minimise the risk of contamination.

Site activities will be regulated by an environmental permit issued by the Environment Agency. The permit will formalise operations at the site to ensure that they are undertaken with a view to minimising the risk of potential contamination.

## 5.3.2 Historical Land Use and Contamination

Prior to the West Newton A Wellsite being constructed, the land formed part of an arable field. Below is a summary of previous land use and changes in the local area following a review of maps obtained from Envirocheck. These maps do not identify any significant land use changes or evidence of historic landfills or pits.

- 1855 1892: Site located within agricultural land with vegetated hedgerows. Lambwath Stream runs 400m to the
  north and comprises a network of drains. The Lambwath Stream valley is labelled as liable to be flooded. Course of
  drain running northwards towards Lambwath Stream identified adjacent to site. Wooded area of West Newton
  Belts 800m to the southwest. Moat identified around Murton Chapel, 600m to the southwest.
- 1910 1911, 1928 -1929: Same land use, Lambwath Stream labelled as Keyingham Level Drainage and liable to flooding.
- 1951 1952, 1956 1957: Same land use but Lambwath Stream valley no longer labelled as liable to flooding.

- 1980 1983: Same land use, Barns 650m to the east labelled as High Fosham. Pond labelled as lagoon identified 700m to the northwest immediately north of Lambwath Stream.
- 2006: Same land use, small ponds located 350m to west and 900m to east. Drainage network clearly visible by colouring.
- 2010: Same land use to 2006 apart from pocket of wooded land 300m to the northwest.

## 5.3.3 Visual and Olfactory Evidence of Existing or Historic Contamination

There is no visual or olfactory evidence to suggest existing or historic contamination at the West Newton A Wellsite.

### 5.3.4 Evidence of Damage to Pollution Prevention Measures

No evidence of damage to any pollution prevention measures have been identified at the time of this report being produced.

Rathlin has previously identified a puncture to its High Density Polyethylene (HDPE) liner within the upper part of its containment ditch during a period of inactivity at the West Newton A Wellsite. It is believed that this was caused by vandalism.

The Environment Agency were informed immediately following the incident and the liner was repaired immediately. No pollution occurred as a result of the puncture as the rainwater levels were significantly below the location of the puncture. Pollution Prevention measures will be checked prior to the undertaking of future permitted activities.

## 6. WEST NEWTON A PRODUCTION FACILITY CONSTRUCTION

## 6.1 Previous Construction Activities and Current Site Status

The West Newton A Wellsite was constructed in the 2nd quarter of 2013, to enable the drilling and testing of up to two exploratory boreholes. The topsoil was stripped from the site area and placed in a storage bund along the eastern boundary of the site. Subsoil was removed to create a level surface and stored in a separate bund along the southern boundary. A ditch was excavated along the perimeter of the site to provide environmental containment.

Once the surface of the site was level and the perimeter ditch excavated, an impermeable membrane, constructed from 1mm fully welded HDPE, was installed across the entire site area and perimeter ditch. The impermeable membrane is protected above and below from a layer of nonwoven needle punched geotextile, which protects the impermeable membrane from being damaged by subsequent operations. Inspections and testing of the impermeable membrane were performed during installation to confirm its integrity.

Geogrid was then laid across the site area and overlaid by 300mm thick layer of MOT Type 1 stone to provide a suitable working surface. Figure 6.1 details a cross section of the current surface construction.

Three sides of the containment ditch were backfilled using 300mm twin walled perforated plastic pipe and backfilled using clean stone. The purpose of backfilling the perimeter ditches was to provide additional working area.



Figure 6.1: West Newton A Wellsite Construction Cross Section

Within the centre of the site a concrete cellar was constructed, formed from pre-cast concrete rings. The impermeable membrane has been integrated into the cellar walls using foam back metal batons to ensure that the integrity of the site is maintained. The cellar rings were sealed together using a tokstick sealant and a 200mm concrete jacket surround cast. The cellar provides an additional containment and houses the wellhead. An integrity test was carried out following construction to confirm environmental integrity. Integrity tests proved that the cellar had environmental integrity. A 20mm reinforced concrete slab is installed around the cellar to accommodate the load from the rig floor of a drilling rig.

Following the construction of the West Newton A Wellsite in 2013 additional construction works have been carried out, these include:

- Replacement of perimeter stock fencing with a 1.8m high paladin fencing;
- Installation of two (2) groundwater monitoring boreholes;
- Installation of a Class 1 Oil-Water Separator; and
- Segregating part of the site to create a car parking area at the northern boundary (non-active area).
- Construction of the WNA-2 well.

## 6.2 Proposed Construction Works

As with the existing site footprint, the proposed wellsite has been designed to be temporary in nature to enable reinstatement, and facilitate the restoration of the land back to its original agricultural condition and the end of the development.

### 6.2.1 Wellsite Extension

The site extension shall be formed in a similar fashion to the current wellsite, by relocating the current soil bunds, removing the top-soil from the extension area and creating storage bunds by levelling the site area and forming ditches around the extended drilling area and new production area. The topsoil and subsoil shall be stored separately in the relocated bunds for reinstatement at the end of the life of the site.

Most of the wellsite shall have approximately 300mm of MOT type 1 aggregate installed and compacted to create a level surface, with tarmac or concrete routes for frequently travelled or turning areas by HGV's.

A layer of geotextile shall be installed above and below the impermeable (HDPE) membrane to protect the HDPE and ensure its integrity. Geogrid may be installed to improve California Bearing Ration (CBR) ratings, if necessary, to ensure that the surface is competent enough to bear the necessary loads. Concrete pads will be installed for areas requiring high load capacities e.g. storage areas or where spotting heavy equipment. This design is standard for onshore oil and gas facilities and replicates the same measures installed at the existing WNA wellsite.

Perimeter ditches will be installed around the whole site to allow for containment of site spills. The drilling area and production area shall have ditches around each area independently which will be isolated from each other. The HDPE membrane shall be installed to the level, or higher than, the surface around the perimeter of the site so that spills will be contained within the site.

Perimeter ditches, where required, shall be piped with twin walled perforated pipes and backfilled with aggregate. The western perimeter ditch on the drilling area shall be left open for rainwater attenuation. Jetting points shall be installed to allow for periodic cleaning of the piped ditches.

Concrete beams shall be created over the pipes at the entrances to the wellsite. A concrete beam shall be installed between the drilling and production area drainage ditches to ensure containment on each side of the wellsite. The HDPE shall be attached to these beams by using a foam backed steel baton to secure the liner to the top of the beam.

A surface water management system shall be utilised to manage surface water runoff from rainfall which will gather in the perimeter ditches. An existing oil separator which currently services the exploration wellsite prior to the discharge point, will be replaced with a similar but larger separator. Both the drilling area and the production area shall have valves to close off each system independently prior to the separator. Another valve shall be installed downstream of the separator at the discharge point. The surface water management system shall prevent uncontrolled release of contaminated water and shall be managed in compliance with the environmental permit conditions and arrangements.

The drilling area requires an entirely flat surface to temporarily install a drilling rig and has been designed to withstand loading from a 100T crane across the site or a specific drilling rig over the well centres.

The production area shall have a level surface with a slight fall created to the platform to direct surface water to the drainage system. Concrete bunds and pads shall be designed to hold the more permanent production equipment. Secondary containment bunds shall be designed in accordance with Ciria C736 guidance and Oil Storage Regulations 2001.

Adequate access facilities have been included so that vehicles have enough space to turn off the highway and park on wellsite. A tanker loading and turning area shall be installed using concrete or tarmac alongside the tank storage area.

A security fence shall be installed around the perimeter of the wellsite. Vehicular gates will be installed at both access points from the highway and pedestrian gates installed at the rear of the site for emergency egress.

Assurance of installing the wellsite extension HDPE membrane will be split into three phases: planning, inspection, and validation.

An independent competent person will be appointed by Rathlin Energy to document the Construction Quality Assurance (CQA) plan in accordance with appropriate regulatory guidance and CIRIA C736. The CQA plan will detail

the standards and approach to manage the membrane installation including cellar integrity. Details of what is included in a CQA plan are outlined in guidance Chapter 6 of the Environment Agency guidance LFE4 Earthworks in Landfill Engineering and briefly described in section 3.3 of the Hydrogeological and Flood Risk Assessment report.

The installation phase will be subject to monitoring and verification to ensure the installation is compliant with the CQA plan. An independent competent person will be appointed to fulfil the role of inspector in accordance with regulatory guidance. On completion of the installation, a Validation report will be documented by the CQA competent person and a copy issued to Rathlin Energy (UK) Limited as a record, which will be kept until the permit is surrendered.

## 6.2.2 Additional Drilling Cellars

Within the original site footprint additional drilling cellars will be constructed. The exact design and construction of the additional well cellars has yet to be confirmed as they may be built individually using pre-cast concrete rings or constructed by excavating one or more trenches designed to accommodate a number of wellheads. The installation of each well cellar shall the be integrated into the CQA Plan as part of the detail cellar designs .The cellar design will be inspected by the CQA Engineer to align with the CQA plan and subject to validation.

### 6.2.3 Rat Hole and Mouse Hole

Dependant on the selected drilling rig, a rat hole and/or mouse hole may need to be drilled to accommodate the drilling rig and associated equipment during any drilling phase. The exact location of the mouse hole and/or rat hole cannot be confirmed until the drilling contractor, and associated drilling rig, has been selected.

Confirmation of the rat and/or mouse hole construction will be provided to the Environment Agency once the construction designs have been finalised, however the design will ensure that drilling fluids cannot migrate down the casing into the subsurface due to being "capped" in some way.

### 6.2.4 Cellar Integrity Test

Once the well cellar(s) has been constructed, or following any subsequent construction works such as mouse or rat hole installation, an integrity test will be carried out to confirm that it provides suitable and effective containment.

The test consists of filling the cellar with water and monitoring water loss over a period of 24 hours. The water level is marked on the side wall of the cellar using marker dye to provide a reference point. If no water loss within the drilling cellar is observed the test is determined as being successful. Should, however, the test identify that the cellar does not have integrity, the leak point shall be identified, repaired and the integrity test repeated. Immediately following installation of the surface conductor casing, the cellar integrity test will be repeated. A bucket may also be filled to calculate the evaporation rate of water if required.



Figure 6.2: Indicative HDPE Geomembrane being installed around the Well Cellar PCC Rings

## 7. CURRENT WELL CONSTRUCTION

## 7.1 West Newton A-1 Well

Drilling of WNA-1 commenced in early 3rd quarter 2013 and was completed by the end of 3rd quarter 2013. Construction of the borehole began with the mobilisation of a small waterwell rig, which drilled through the boulder clay and into the top section of the chalk. Once drilled, steel casing was run and cemented back to surface.

A larger oilfield drilling rig was mobilised to drill the remaining hole sections to the target depth. The operations involved drilling a number of hole sections, which reduced in size to and through the target formations. As each hole size was drilled, steel casing was run and cemented in place. Once each casing string was run, it was pressure tested to confirm integrity. With the casing strings run and cemented in position, it is considered there is sufficient protection and isolation between the different formations to prevent fluids from other formations contaminating any aquifers.

Hole Section	Depths (m)		Mud System	Casing	Top of Cement	
Hole Section	MD	TVD	widd System Casing			
36"	69	69	Fresh Water / Polymer Based	26" Conductor Casing	Surface	
20"	524.5	524.5	Fresh Water / Polymer Based	18.625" Surface Casing	Surface	
17 ½"	1,915		Fresh Water / Polymer Based	9 5/8" Intermediate Casing 1330m MD		
12 ¼"	2,663		Salt Saturate NaCl/KCL Polymer	7" Production Casing	1323m MD	
6"	3,175		Salt Saturate NaCl/KCL Polymer	4 ½" Liner	2483m MD	

A summary table of the WNA-1 well has been provided below.

Table 7.1: WNA-1 Summary Well Construction

## 7.2 West Newton A-2 Well

Drilling of WNA-2 commenced and completed within 2nd quarter 2019. Construction of the borehole began with the mobilisation of a small waterwell rig to a depth of 78m bgl, which drilled through the boulder clay and into the top section of the chalk. Once drilled, steel casing was run and cemented back to surface.

A larger oilfield drilling rig was mobilised to drill the remaining hole sections to the target depth. The operations involved drilling a number of hole sections, which reduced in size to and through the target formations. As each hole size was drilled, steel casing was run and cemented in place. Once each casing string was run, it was pressure tested to confirm integrity. With the casing strings run and cemented in position, it is considered there is sufficient protection and isolation between the different formations to prevent fluids from other formations contaminating any aquifers.

A summary table of the WNA-2 well has been provided below.

Hole Section	Depths (m)		Mud System	Casing	Top of Cement	
Hole Section	MD	TVD	Wuu System Casing			
26"	78	78	Fresh Water / Polymer Based	20" Conductor Casing	Surface	
17 ½"	561	561	Fresh Water / Polymer Based	13 <sup>3</sup> / <sub>8</sub> " Surface Casing	Surface	
12 ¼"	1,524	1,510	Salt Saturate NaCl/KCL Polymer	9 <sup>5</sup> /8" Intermediate Casing	200m MD/TVD	
8 1⁄2"	2,061	2,038	Salt Saturate NaCl/KCL Polymer	5 ½" Production Casing	Surface	

Table 7.2: WNA-2 Summary Well Construction

## 8. **DEVELOPMENT ACTIVITIES**

## 8.1 Permitted Activities

The West Newton A Wellsite currently holds the following environmental permits:

- Mining Waste Permit (EPR/BB3001FT) incorporating both a Mining Waste Operation and an Installation activity for the drilling of additional wells, well testing, the incineration of hazardous waste above 10 Tonnes per day and for the storage of crude oil. It also includes a Water Discharge Activity for the discharge of clean surface run-off water;
- A Medium Combustion Plant Activity (MCP) for the operation of gas and/or diesel fuelled generators; and
- SR 2014 No4 Permit (EPR/PB3030DJ) for the Accumulation and Disposal of radioactive waste from the NORM Industrial Activity of the production of oil and gas.

## 8.2 Additional Permitted Activities

The proposal is to include a number of additional activities which will require consenting through the EPR2016. These activities include:

- A Groundwater Activity for the injection of substances (proppant and proppant carrier fluid) to groundwater associated with the reservoir stimulation operation; and
- A Mining Waste Facility for the substances (proppant carrier fluid) being retained in the formation as a result of the reservoir stimulation.

The Mining Waste Permit (EPR/BB33001FT) shall be varied to facilitate the reservoir stimulation.

### 8.3 Non-Permitted Activities

Additional activities proposed to be undertaken, which do not fall within the regulatory regime of EPR2016 will include:

- Car parking for staff vehicles;
- Provision of welfare facilities;
- Well and site maintenance; and
- Storage and disposal of non-hazardous and hazardous waste not directly associated with the permitted activities.

## 8.4 Environmental Risk Assessment

An Environmental Risk Assessment (RE-EPRA-WN-ERA-007) has been submitted to the Environment Agency as part of an application for a variation to the existing environmental permit (EPR/BB3001FT).

## 9. ENVIRONMENTAL MONITORING

To ensure that operations conducted at the West Newton A Wellsite do not cause an adverse impact on the environment, Rathlin shall continue to undertake environmental monitoring in accordance with the methodologies presented to the Local Planning Authority, East Riding of Yorkshire Council and the Environment Agency. This Section provides details of the environmental monitoring, which for clarity consists of sampling and analysis of a number of environmental parameters including:

- Air;
- Groundwater;
- Surface Water; and
- Soils.

The results of environmental monitoring have been issued to the Environment Agency in accordance with the existing environmental permit.

#### 9.1 **Air Quality Monitoring**

Four ambient air quality monitoring locations were previous identified and agreed with the Environment Agency and have been the subject of monitoring during periods of operation at the site. Additional spot sampling for Methane was also undertaken as Methane could not be analysed via the diffusion tube methodology. As such a grab sample bag was used. The parameters being monitored for included:

- Methane
- Benzene •
- Toluene •
- Ethylbenzene •
- m,p-Xylene •

#### 9.2 **Groundwater Monitoring**

Two groundwater monitoring boreholes were installed at the West Newton A Wellsite in 2014 and has been the subject of groundwater monitoring since the 26 June 2014. The parameters being monitored for include:

- Depth to Groundwater
- **Groundwater Elevation** •
- Mercury Total Hg •
- Cadmium Total Cd •
- pН •
- BOD •
- Turbidity
- **Total Suspended Solids** •
- Alkalinity
- Hardness
- Sulphate
- Chloride
- Nitrate •

- o-Xylene
- Volatile Organic Compounds
- Nitrogen Dioxide
- Nitric Oxide
- Sulphur Dioxide
- - Calcium • •
  - Magnesium
  - Potassium .
  - MTBE
  - Benzene •
  - Toluene .
  - Ethylbenzene
  - P/m-Xylene •
  - 0-Xylene
  - SR Toluene
  - SR 4-BFB
  - TPH (C5-35)
  - Methane

Groundwater samples are collected on a 3 monthly basis during periods of inactivity at the West Newton A Wellsite, with the results being formally submitted to the Environment Agency for review in line with the conditions set by the environmental permit.

During periods of well testing activities, as stated within the environmental permit, the frequency in which samples will be taken will increase to a monthly basis to ensure that the operations being undertaken do not have an impact on groundwater quality.

Groundwater Monitoring will continue to be undertaken through the lifetime of the site.

## 9.3 Surface Water Monitoring

The surface water collected within the site perimeter containment ditch is the subject of three (3) monthly sampling and analysis with the results being submitted to the Environment Agency. The parameters being monitored for include:

- pH
- Electrical Conductivity
- Total Suspended Solids
- Biochemical Oxygen Demand
- Turbidity
- Alkalinity (Total, Bicarbonate)
- Hardness
- Mercury (Total Hg)
- Cadmium (Total Cd)
- Sulphate
- Sulphur
- Chloride
- Sodium
- Nitrate

- Calcium
- Magnesium
- Potassium
- Aluminium
- Iron
- Manganese
- Zinc
- Benzene
- Toluene
- Ethel Benzene
- p/m-Xylene
- o-Xylene
- MTBE
- Total Petroleum Hydrocarbons

The purpose of the surface water monitoring is to ensure that any surface water discharged from the site is clean. For clarity, water discharges will only take place when the site is either inactive or in a period of production. No discharges shall take place during either drilling, testing or similar operations unless the water has been transferred to an isolated storage tank and analysed prior to discharge.

## 9.4 Soil Analysis

A series of shallow geotechnical boreholes were drilled prior to the site being constructed. These boreholes confirmed that the average topsoil depth across the site was 0.20m. The subsoil consists of soft clay with occasional sand lenses. There was no indication of groundwater within these shallow boreholes.

In summary, the soil analysis provides a record for future restoration of the site. The results show that there is no specific contamination on the wellsite and it is considered inert.

The soils which were excavated as part of the construction phase have been stored in a temporary bund along the perimeter of the wellsite.

## APPENDIX 1 - GEOLOGICAL MAPPING

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## Geology 1:50,000 Maps Legends

#### Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	GFDUD	Glaciofluvial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian

#### **Bedrock and Faults**

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ROWE	Rowe Chalk Formation	Chalk	Not Supplied - Campanian
FCK		Flamborough Chalk Formation	Chalk	Not Supplied - Santonian

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#### Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

#### Geology 1:50,000 Maps Coverage

Map ID: Map Sheet No: Map Name: Map Date: Bedrock Geology: Superficial Geology: Artificial Geology:	1 073 Hornsea 1998 Available Available Not Available		
Faults: Landslip: Pock Segments:	Not Supplied Not Available		
Geology 1:50	1,000 Maps -	· Slice /	A
A21 A22	A23 A	24 A25	1
FILE 1 FILE		L SEBW	
-A16	A18A	19	
	SE SW SE SW SE SW NEWW	I SEST	N
-A1	A	14	$\rightarrow$
-·A6 A7	88 <b>8W</b> 96197 NE NW NEDW	A10-	V
Ord		se sw Ne wy	
Customer relevant	A3 /	A4 A5	VELOPMENT
National Grid Ref	erence: 519360	0, 439140	
Silce: Site Area (Ha): Search Buffer (m)	3.32 : 1000		
Site Details: Site at 519270, 43	39130		
	ark	Tel: Fax: Web:	0844 844 9952 0844 844 9951 www.envirocheck.co.uk
v15.0 09-Sep-202	20		Page 1 of s



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#### Artificial Ground and Landslip

Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

#### Artificial ground includes:

- Made ground man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground areas where the surface has been reshaped.

- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

#### Artificial Ground and Landslip Map - Slice A





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#### Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.





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#### **Bedrock and Faults**

Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.





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#### **Combined Surface Geology**

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

#### **Additional Information**

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

#### Contact

British Geological Survey Kingsley Dunham Centre Keyworth Nottingham NG12 5GG Telephone: 0115 936 3143 Fax: 0115 936 3276 email: enquiries@bgs.ac.uk website: www.bgs.ac.uk





## APPENDIX 2 - SITE SENSITIVITY REPORT

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## **Envirocheck® Report:**

## Datasheet

## **Order Details:**

Order Number: 256392419\_1\_1

Customer Reference: WNA-FIELD DEVELOPMENT

## National Grid Reference: 519360, 439140

Slice:

A Site Area (Ha):

3.32 Search Buffer (m):

1000

**Site Details:** Site at 519270, 439130

## **Client Details:**

Mr J Foster Zetland Group Ltd The Innovation Centre Vienna Court Kirkleatham Business Park REDCAR North Yorkshire TS10 5SH

## **Prepared For:**

Rathlin Energy (UK) Limited West Newton A Development Fosham Road Marton Hull HU11 5DA



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## Contents

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Geological	23
Industrial Land Use	-
Sensitive Land Use	24
Data Currency	25
Data Suppliers	29
Useful Contacts	30

#### Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.

Tor this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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## Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 2				16
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 6	4			
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls					
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature			Yes		
Pollution Incidents to Controlled Waters	pg 7				1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 7	1			
River Quality	pg 7		1		
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 7				(*2)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 8	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 8	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 8	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences	pg 8		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 8		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 8		4	18	97

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## Summary

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Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites					
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 22	1			
Local Authority Landfill Coverage	pg 22	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Registered Landfill Sites					
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 23	Yes	n/a	n/a	n/a
BGS Recorded Mineral Sites					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 23	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 23	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

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## Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries					
Fuel Station Entries					
Gas Pipelines					
Underground Electrical Cables					
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 24	1			
Ramsar Sites					
Sites of Special Scientific Interest	pg 24				1
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (SE)	0	1	519357 439141
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	0	1	519300 439100
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	46	1	519300 439250
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (S)	65	1	519357 439000
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (W)	87	1	519150 439141
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	198	1	519250 439400
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (S)	215	1	519300 438850
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	249	1	519200 439450
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	341	1	519357 439550
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (NW)	356	1	519150 439550
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (NW)	381	1	518900 439400
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (NW)	409	1	518900 439450
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A8NE (S)	416	1	519500 438650
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SW (N)	443	1	519350 439650
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SW (N)	448	1	519250 439650
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (NW)	450	1	518850 439450
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A17SE (NW)	479	1	518850 439500
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SW (N)	495	1	519300 439700
	BGS Groundwater Flooding Susceptibility				
	Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SW	498	1	519250 439700

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Discharge Consents Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status:	Wood End House FARMS (NOT HOUSE)/CROP + ANIMAL REARING/PLANT NURSERY Eastwood John Gordon Woodend Farm M, Arton-Sproatley Environment Agency, North East Region Hull Tributaries C5533 2 26th July 2012 26th July 2012 26th July 2012 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Land/Soakaway Land Adj. To Farm Transferred from COPA 1974	A12NW (W)	725	2	518500 439200
	Positional Accuracy:	Located by supplier to within 100m				
1	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: Status: Positional Accuracy:	Wood End House FARMS (NOT HOUSE)/CROP + ANIMAL REARING/PLANT NURSERY Eastwood John Gordon Woodend Farm M, Arton-Sproatley Environment Agency, North East Region Hull Tributaries C5533 1 10th May 1989 25th July 2012 Sewage Discharges - Final/Treated Effluent - Not Water Company Land/Soakaway Land Adj. To Farm Transferred from COPA 1974 Located by supplier to within 100m	A12NW (W)	725	2	518500 439200
	Discharge Consents	5		700		540400
1	Operator: Property Type: Location: Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: <b>Status:</b> Positional Accuracy:	Paul King DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Hawleys Cottage, Marton, East Riding Of Yorkshire Environment Agency, North East Region Humber Tributaries Wra8400 1 2nd December 2004 2nd December 2004 Not Supplied Sewage Discharges - Final/Treated Effluent - Not Water Company Freshwater Stream/River Tributary Of Lambwath Stream New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m	A12NW (W)	762	2	518463 439194
	Discharge Consents	S	4400144	700	0	540000
2	Authority: Catchment Area: Reference: Permit Version: Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment: Receiving Water: <b>Status:</b> Positional Accuracy:	WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire Environment Agency, North East Region Humber Tributaries H238 12 1st April 2009 14th October 2008 Not Supplied Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River Lambwath Stream Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m	(NE)	720	2	439720

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Discharge Consents	6				
2	Operator: Property Type: Location:	Yorkshire Water Services Ltd WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	A19SW (NE)	726	2	519990 439720
	Authority: Catchment Area: Reference: Permit Version: Effective Date:	Environment Agency, North East Region Humber Tributaries H238 10 9th July 2003				
	Issued Date: Revocation Date: Discharge Type: Discharge	9th July 2003 29th September 2003 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River				
	Receiving Water: Status:	Lambwath Stream Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995)				
	Positional Accuracy:					
	Discharge Consents	3				
2	Operator: Property Type: Location:	Yorkshire Water Services Ltd WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	A19SW (NE)	726	2	519990 439720
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Humber Tributaries H238 9				
	Effective Date: Issued Date: Revocation Date: Discharge Type:	21st August 2002 21st August 2002 8th July 2003 Sewage Discharges - Final/Treated Effluent - Water Company				
	Discharge Environment: Receiving Water:	Freshwater Stream/River Lambwath Stream				
	Status: Positional Accuracy:	Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m				
	Discharge Concente					
2	Operator:	Vorkshira Watar Sanicas I ta	A 10 S W/	706	2	510000
۷	Property Type: Location:	WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	(NE)	720	2	439720
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Humber Tributaries H238 11				
	Effective Date: Issued Date: Revocation Date:	30th September 2003 21st August 2002 31st March 2009				
	Discharge Type: Discharge Environment: Receiving Water:	Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River				
	Status: Positional Accuracy:	Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m				
	Discharge Consents	3				
2	Operator:	Yorkshire Water Services I to	A19SW	726	2	519990
-	Property Type: Location:	WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	(NE)		-	439720
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Humber Tributaries H238 5				
	Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge	25th February 2002 25th February 2002 31st March 2002 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River				
	Receiving Water: Status: Positional Accuracy:	Lambwath Stream New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m				

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Discharge Consents	5				
2	Operator: Property Type: Location:	Yorkshire Water Services Ltd WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	A19SW (NE)	726	2	519990 439720
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Humber Tributaries H238 6 Act April 2002				
	Issued Date: Revocation Date: Discharge Type: Discharge	25th February 2002 20th August 2002 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River				
	Environment: Receiving Water: Status:	Lambwath Stream New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)				
	F USILIOIIAI ACCUIACY.					
2	Discharge Consents Operator: Property Type: Location:	S Yorkshire Water Services Ltd WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	A19SW (NE)	726	2	519990 439720
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Humber Tributaries H238 4 4				
	Issued Date: Revocation Date: Discharge Type: Discharge	17th February 2002 24th February 2002 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River				
	Environment: Receiving Water: Status:	Lambwath Stream New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m				
	T Usitional Accuracy.					
	Discharge Consents	3				
2	Operator: Property Type: Location:	Yorkshire Water Services Ltd WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	A19SW (NE)	726	2	519990 439720
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Humber Tributaries H238 3				
	Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge	10th October 1985 10th October 1985 16th February 2002 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River				
	Environment: Receiving Water: Status: Positional Accuracy:	Lambwath Stream New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m				
	Discharge Concerts	· ···				
2	Operator:	Vorkshire Water Services I to	A195W/	726	2	510000
2	Property Type: Location:	WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	(NE)	720	2	439720
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Humber Tributaries H238 2				
	Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment:	stn February 1981 5th February 1981 9th October 1985 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River				
	Receiving Water: <b>Status:</b> Positional Accuracy:	Lambwath Stream New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m				
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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	<b>Discharge Consents</b>	5				
2	Operator: Property Type: Location:	Yorkshire Water Services Ltd WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	A19SW (NE)	726	2	519990 439720
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Humber Tributaries H238 1				
	Issued Date: Revocation Date: Discharge Type: Discharge	14th January 1965 4th February 1965 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River				
	Environment: Receiving Water: Status:	Lambwath Stream New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)				
	Positional Accuracy:	Located by supplier to within 10m				
	Discharge Consents	5				
3	Operator: Property Type: Location: Authority:	Heywood Farm, Undefined Or Other Jagger Alvey Ronald,Betty Mary And, Ronald.Heywood Farm Marton Skirl, Augh North Humberside Environment Agency, North East Region	A12NW (W)	825	2	518400 439200
	Catchment Area: Reference: Permit Version: Effective Date: Issued Date:	Hull Tributaries C4196 1 1st May 1986 1st May 1986				
	Revocation Date: Discharge Type: Discharge Environment: Receiving Water:	Trade Effluent Freshwater Stream/River Trib.Of Lambwath Stream				
	Status: Positional Accuracy:	Consent revoked: Discharge ceased (Water Resources Act 1991, Schedule 10 & 6)				
	Discharge Concept					
4	Discharge Consents	s Varkahira Water Convises Ltd	4.400.004/	007	0	500040
4	Property Type: Location:	Sewage Disposal Works - Water Company Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	(NE)	867	2	439890
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Not Supplied H238 8				
	Effective Date: Issued Date: Revocation Date: Discharge Type:	9th July 2003 9th July 2003 Not Supplied Sewage Discharges - Final/Treated Effluent - Water Company				
	Discharge Environment: Receiving Water:	Lambwath Stream				
	Positional Accuracy:	Environment Act 1995) Located by supplier to within 10m				
	Discharge Consents	3				
4	Operator: Property Type: Location:	Yorkshire Water Services Ltd Sewage Disposal Works - Water Company Withernwick Wwtw East Lambwath Road, South End Field, Withernwick, East Yorkshire	A19NW (NE)	867	2	520010 439890
	Authority: Catchment Area: Reference: Permit Version:	Environment Agency, North East Region Not Supplied H238 7				
	Effective Date: Issued Date: Revocation Date: Discharge Type: Discharge Environment:	1st August 2002 1st August 2002 8th July 2003 Sewage Discharges - Final/Treated Effluent - Water Company Freshwater Stream/River				
	Receiving Water: Status: Positional Accuracy:	Lambwath Stream Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Located by supplier to within 10m				

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Integrated Pollution Name:	Prevention And Control Rathlin Energy (Uk) Limited	A13SW	0	2	519270
	Location: Authority: Permit Reference: Original Permit Ref: Effective Date: <b>Status:</b> Application Type: App. Sub Type: Positional Accuracy: Activity Code: Activity Code: Activity Description: Primary Activity: Activity Description:	West Newton 'A' Well Site Epr/Bb3001ft, Rathlin Energy (Uk) Limited, Fosham Road,Marton,, Hull, North Humberside, HU11 5DA Environment Agency, North East Region YP3501BA Pp3833va 23rd April 2020 Effective Variation Simple Standard Variation Located by supplier to within 10m 1.2 Part A (1) e) (i) 2017 Loading/Storage/Treatment Etc Of Crude Oil N 5.1 A(1) (A) THE INCINERATION OF HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 10 TONNES PER DAY Y	(W)			439130
	Integrated Pollution	Prevention And Control				
5	Name: Location: Authority: Permit Reference: Original Permit Ref: Effective Date: <b>Status:</b> Application Type: App. Sub Type: Positional Accuracy: Activity Code: Activity Description: Primary Activity: Activity Code: Activity Description: Primary Activity:	Rathlin Energy (Uk) Limited West Newton 'A' Well Site Epr/Bb3001ft, Rathlin Energy (Uk) Limited, Fosham Road,Marton,, Hull, North Humberside, HU11 5DA Environment Agency, North East Region VP3832QW Pp3833va 6th August 2019 <b>Superseded By Variation</b> Variation Variation Standard Located by supplier to within 10m 5.1 A(1) (A) THE INCINERATION OF HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 10 TONNES PER DAY Y 1.2 Part A (1) e) (i) 2017 Loading/Storage/Treatment Etc Of Crude Oil N	A13SW (W)	0	2	519270 439130
Б	Integrated Pollution	Prevention And Control	A 12S\A/	0	2	510270
5	Authority: Permit Reference: Original Permit Ref: Effective Date: <b>Status:</b> Application Type: App. Sub Type: Positional Accuracy: Activity Code: Activity Description:	West Newton Well Site Epr/Bb3001ft, Rathlin Energy (Uk) Limited, Fosham Road,Marton., Hull, North Humberside, HU11 5DA Environment Agency, North East Region GP3634AH Pp3833va 5th August 2015 Superseded By Variation Variation Standard Located by supplier to within 10m 5.1 A(1) (A) THE INCINERATION OF HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 10 TONNES PER DAY	(W)	5	2	439130
	Primary Activity:	Y Provention And Control				
5	Name: Location: Authority: Permit Reference: Original Permit Ref: Effective Date: <b>Status:</b> Application Type: App. Sub Type: Positional Accuracy: Activity Code: Activity Description: Primary Activity:	Rathlin Energy (Uk) Limited West Newton Well Site Epr/Bb3001ft, Rathlin Energy (Uk) Limited, Fosham Road,Marton,, Hull, North Humberside, HU11 5DA Environment Agency, North East Region PP3833VA Pp3833VA 30th April 2014 <b>Superseded By Variation</b> Application New Located by supplier to within 10m 5.1 A(1) (A) THE INCINERATION OF HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 10 TONNES PER DAY Y	A13SW (W)	0	2	519270 439130
	Nearest Surface Wa	ter Feature		2	_	519223
			(W)	٢		439195

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Pollution Incidents	to Controlled Waters				
6	Property Type: Location: Authority: Pollutant: Note: Incident Date: Incident Reference: Catchment Area: Receiving Water: Cause of Incident: Incident Severity: Positional Accuracy:	Water Company Sewage: Foul Sewer Road Bridge, /Old Hull/Hornsey Lambwath Stream 04 Environment Agency, North East Region Crude Sewage Not Supplied 10th December 1990 118656 Not Given Freshwater Stream/River Not Given Category 2 - Significant Incident Located by supplier to within 100m	A19NW (NE)	952	2	519800 440100
	Registered Radioac	tive Substances				
7	Name: Location: Authority: Permit Reference: Dated: Process Type: Description: <b>Status:</b> Positional Accuracy:	Rathlin Energy (Uk) Limited West Newton Wellsite, Fosham Road, Marton, Hull, Hu11 5da Environment Agency, North East Region PB3030DJ Not Supplied Not Supplied Application has been determined by the EA Located by supplier to within 10m	A13SW (W)	0	2	519260 439130
	River Quality					
	Name: GQA Grade: Reach: Estimated Distance (km): Flow Rate: Flow Rate: Flow Type: Year:	Lambwath_Stream River Quality E Thorpe_Garth_Foredyke_Strea 18.5 Flow less than 0.31 cumecs River 2000	A13NW (NW)	210	2	519184 439418
	Water Abstractions					
	Operator: Licence Number: Permit Version: Location: Authority: Abstraction: Abstraction Type: Source: Daily Rate (m3): Yearly Rate (m3): Details: Authorised Start: Authorised Start: Authorised End: Permit Start Date: Permit End Date: Positional Accuracy:	Norman Caley Ltd 2/26/32/176 100 Lambwath Stream Environment Agency, North East Region General Agriculture: Spray Irrigation - Direct Water may be abstracted from a single point Surface 341 8000 The Old Farm, West Newton, Hull 01 January 31 December 13th October 2006 Not Supplied Located by supplier to within 100m	A15NE (E)	1324	2	520800 439300
	Water Abstractions	Name of Calculat	45014/	4770	0	500000
	Licence Number: Permit Version: Location: Authority: Abstraction: Abstraction Type: Source: Daily Rate (m3): Yearly Rate (m3): Details: Authorised Start: Authorised Start: Authorised End: Permit Start Date: Permit End Date: Positional Accuracy:	2/26/32/177 100 Well - Superficial Drift - West Newton Environment Agency, North East Region General Agriculture: Spray Irrigation - Direct Water may be abstracted from a single point Groundwater 341 8000 The Old Farm, West Newton, Hull 01 January 31 December 13th October 2006 Not Supplied Located by supplier to within 100m	(SE)	1773	2	437700

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Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulne	rability Map				
	Combined	Secondary Superficial Aquifer - Medium Vulnerability	A13NE	0	3	519357
	Classification: Combined	Medium	(SE)			439141
	Vulnerability:	Productive Podrock Aquifer, Broductive Superficial Aquifer				
	Pollutant Speed:	Low				
	Bedrock Flow:	Well Connected Fractures				
	Baseflow Index:	<300 mm/year 40-70%				
	Superficial	>90%				
	Patchiness: Superficial	>10m				
	Thickness:					
	Superficial Recharge:	High				
	Groundwater Vulne	rability - Soluble Rock Risk				
	None					
	Bedrock Aquifer De	signations				
	Aquifer Designation:	Principal Aquifer	A13NE	0	3	519357 439141
	Superficial Aquifer	Designations				
	Aquifer Designation:	Secondary Aquifer - Undifferentiated	A13NE	0	3	519357
			(SE)			439141
	Extreme Flooding fr	rom Rivers or Sea without Defences			_	
	Type: Flood Plain Type:	Extent of Extreme Flooding from Rivers or Sea without Defences	A13NW	154	2	519198 439364
	Boundary Accuracy:	As Supplied	()			100001
	Extreme Flooding fr	om Rivers or Sea without Defences				
	Туре:	Extent of Extreme Flooding from Rivers or Sea without Defences	A13NW	218	2	519270
	Flood Plain Type: Boundary Accuracy:	Fluvial Models As Supplied	(N)			439425
	Extreme Flooding fr	rom Rivers or Sea without Defences				
	Type:	Extent of Extreme Flooding from Rivers or Sea without Defences	A13NW	218	2	519250
	Flood Plain Type:	Fluvial Models and Fluvial Events	(N)			439420
	Extreme Fleeding fr	ra Biyara ar Saa without Dafanasa				
		Extent of Extreme Flooding from Rivers or Sea without Defences		233	2	519250
	Flood Plain Type:	Fluvial Models and Fluvial Events	(N)	200	2	439435
	Boundary Accuracy:	As Supplied				
	Flooding from River	rs or Sea without Defences				
	Type: Flood Plain Type:	Extent of Flooding from Rivers or Sea without Defences	A13NW	222	2	519270
	Boundary Accuracy:	As Supplied	(14)			400420
	Areas Benefiting fro	m Flood Defences				
	None					
	Flood Water Storage	e Areas				
	None					
	Flood Defences					
	None					
	OS Water Network I	ines				
8	Watercourse Form: Watercourse Length:	Inland river 1477.1	A13SW (SW)	2	4	519262 439063
	Watercourse Level:	On ground surface	(011)			100000
	Permanent: Watercourse Name	True Not Supplied				
	Catchment Name:	Hull				
	Primacy:	1				
	OS Water Network I	Lines	A 4 05 11 4 4	470	_	540040
9	watercourse Form: Watercourse Length:	iniano river 311.3	(W)	1/9	4	519046 439150
	Watercourse Level:	On ground surface	,			
	Permanent: Watercourse Name:	Not Supplied				
	Catchment Name:	Hull				
	Primacy:	1				

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 38.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primover 1	A13NW (NW)	188	4	519094 439337
11	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       141.9         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A13NW (NW)	210	4	519094 439366
12	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       84.5         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A18SW (N)	275	4	519234 439476
13	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       139.0         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hul         Primacy:       1	A18SW (N)	332	4	519208 439538
14	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 10.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A18SW (NW)	333	4	519093 439508
15	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       198.4         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A18SE (NE)	335	4	519580 439523
16	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       266.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A18SW (NW)	343	4	519092 439518
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 291.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A8NW (SW)	349	4	519081 438774
18	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 5.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lambwath Stream Catchment Name: Hull Primacy: 1	A18SW (N)	355	4	519213 439557

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       95.0         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       2	A18SW (N)	359	4	519216 439561
20	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       371.6         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A18SW (N)	359	4	519216 439561
21	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 140.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A19SW (NE)	430	4	519754 439534
22	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       715.5         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A18SW (N)	435	4	519158 439637
23	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       435.9         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A18SW (N)	449	4	519187 439649
24	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       28.9         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A14NW (E)	451	4	519926 439268
25	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 268.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A12NE (W)	467	4	518763 439278
26	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 51.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A12NE (W)	472	4	518751 439203
27	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 19.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A12NE (W)	476	4	518749 439188

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       152.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A19SW (NE)	485	4	519833 439536
29	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 89.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A12NE (W)	496	4	518730 439186
30	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       241.1         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A8NE (S)	515	4	519482 438550
31	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       12.0         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A18SE (N)	518	4	519544 439717
32	OS Water Network Lines Watercourse Form: Lake Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 2	A7NE (SW)	522	4	518930 438669
33	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       7.9         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A17SE (NW)	523	4	518786 439485
34	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       277.8         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A18SE (N)	526	4	519536 439727
35	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A18SE (N)	526	4	519536 439727
36	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 211.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A17SE (NW)	531	4	518780 439491

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
37	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       2.9         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A8NE (S)	534	4	519550 438537
38	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 14.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 2	A8NE (S)	536	4	519553 438535
39	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 593.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A8NE (S)	536	4	519553 438535
40	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A8NW (S)	540	4	519318 438525
41	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       183.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A17SE (NW)	542	4	518819 439563
42	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       5.5         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       2	A8NE (S)	545	4	519565 438528
43	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       186.7         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       2	A8NE (S)	550	4	519569 438524
44	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 385.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A9NW (SE)	552	4	519913 438738
45	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 9.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A17SE (NW)	560	4	518911 439667

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
46	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       8.5         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A17SE (NW)	561	4	518911 439667
47	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       268.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A17SE (NW)	570	4	518905 439673
48	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 141.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A17SE (NW)	570	4	518905 439673
49	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 525.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A19SW (NE)	574	4	519939 439548
50	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       177.6         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A19SW (NE)	586	4	519811 439687
51	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       48.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7NE (SW)	586	4	518746 438781
52	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 40.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7NE (SW)	593	4	518790 438705
53	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 107.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7NE (SW)	614	4	518828 438635
54	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 25.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A12SW (SW)	630	4	518663 438848

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
55	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       75.9         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7NE (SW)	631	4	518728 438726
56	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 81.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7NE (SW)	632	4	518712 438747
57	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7NE (SW)	632	4	518790 438647
58	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       172.3         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A9NW (SE)	637	4	519883 438582
59	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       363.9         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A9NW (SE)	637	4	519883 438582
60	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 8.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7NE (SW)	644	4	518761 438661
61	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7NE (SW)	644	4	518761 438661
62	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 46.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7NE (SW)	645	4	518755 438667
63	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       180.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       2	A7NE (SW)	647	4	518912 438529

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
64	OS Water Network LinesWatercourse Form:Inland riverWatercourse Length:59.3Watercourse Level:On ground surfacePermanent:TrueWatercourse Name:Not SuppliedCatchment Name:HullPrimacy:1	A7NE (SW)	649	4	518790 438623
65	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       45.5         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7NE (SW)	649	4	518790 438623
66	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       130.9         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A12SW (W)	650	4	518635 438865
67	OS Water Network LinesWatercourse Form:Inland riverWatercourse Length:196.2Watercourse Level:On ground surfacePermanent:TrueWatercourse Name:Not SuppliedCatchment Name:HullPrimacy:1	A7NE (SW)	652	4	518841 438574
68	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       44.6         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7NE (SW)	663	4	518823 438574
69	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       93.8         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7NE (SW)	663	4	518823 438574
70	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       640.9         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A9SW (SE)	666	4	519741 438457
71	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 89.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A9SW (SE)	666	4	519741 438457
72	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       5.3         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A12SW (W)	674	4	518589 438931

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       165.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A19SE (NE)	676	4	520063 439545
74	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       27.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A12SW (W)	676	4	518585 438935
75	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       829.4         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A14SE (SE)	695	4	520115 438810
76	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       10.5         Watercourse Level:       Not Supplied         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A14SE (SE)	695	4	520115 438810
77	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 381.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A9NE (SE)	697	4	520113 438799
78	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       54.0         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7NE (SW)	701	4	518868 438493
79	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       349.6         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7NE (SW)	701	4	518868 438493
80	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 60.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Lambwath Stream Catchment Name: Hull Primacy: 1	A19SW (NE)	719	4	519981 439719
81	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 436.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: The Beck Catchment Name: Hull Primacy: 1	A19SW (NE)	719	4	519981 439719

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
82	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       242.1         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A9SW (SE)	725	4	519827 438435
83	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       53.4         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A19SE (NE)	754	4	520040 439709
84	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       239.8         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7SE (SW)	776	4	518893 438389
85	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       113.6         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A19SE (NE)	786	4	520092 439696
86	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       260.8         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A19SE (NE)	786	4	520092 439696
87	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       186.5         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A12NW (W)	800	4	518425 439211
88	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7SE (SW)	810	4	518874 438360
89	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 4.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7SE (SW)	812	4	518869 438360
90	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       34.7         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7SE (SW)	814	4	518865 438360

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
91	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       177.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A17SW (NW)	816	4	518672 439802
92	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       45.9         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A17SW (NW)	816	4	518672 439802
93	OS Water Network Lines Watercourse Form: Lake Watercourse Length: 1.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7SE (SW)	833	4	518830 438360
94	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       76.3         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A17SW (NW)	838	4	518586 439743
95	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       9.3         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A17SW (NW)	853	4	518624 439808
96	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       74.6         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A19SE (NE)	856	4	520201 439664
97	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 266.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A19SE (NE)	856	4	520201 439664
98	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       112.4         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A17NW (NW)	856	4	518629 439816
99	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       353.1         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7SE (SW)	881	4	518823 438307

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
100	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       106.2         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       The Beck         Catchment Name:       Hull         Primacy:       1	A19NW (NE)	894	4	519762 440052
101	OS Water Network Lines Watercourse Form: Inland river Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7SW (SW)	901	4	518673 438389
102	OS Water Network LinesWatercourse Form:Inland riverWatercourse Length:303.7Watercourse Level:On ground surfacePermanent:TrueWatercourse Name:Not SuppliedCatchment Name:HullPrimacy:1	A19SE (NE)	913	4	520275 439653
103	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       7.1         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A15NW (E)	913	4	520384 439329
104	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       129.8         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A19SE (NE)	913	4	520275 439653
105	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       319.7         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A15NW (E)	915	4	520385 439336
106	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       619.3         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A11NE (W)	920	4	518303 439185
107	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       213.8         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A11NE (W)	920	4	518306 439241
108	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 261.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A9SW (S)	929	4	519741 438177

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
109	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       44.1         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7SE (S)	939	4	518984 438172
110	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       33.1         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7SE (SW)	942	4	518870 438213
111	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 108.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7SE (SW)	942	4	518870 438213
112	OS Water Network Lines         Watercourse Form:       Lake         Watercourse Length:       20.8         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A9SW (SE)	947	4	519837 438193
113	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       8.9         Watercourse Level:       Underground         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A17NW (NW)	957	4	518522 439851
114	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       134.7         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Lambwath Stream         Catchment Name:       Hull         Primacy:       1	A17NW (NW)	957	4	518522 439851
115	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 4.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A17NW (NW)	959	4	518630 439954
116	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       84.6         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A17NW (NW)	961	4	518524 439859
117	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 155.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A9NE (SE)	961	4	520276 438544

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
118	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 211.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A17NW (NW)	962	4	518625 439954
119	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 72.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7NW (SW)	963	4	518356 438721
120	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       142.5         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7SE (SW)	969	4	518943 438154
121	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 7.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7SE (SW)	970	4	518874 438180
122	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       5.1         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7SE (SW)	976	4	518929 438151
123	OS Water Network Lines         Watercourse Form:       Inland river         Watercourse Length:       168.7         Watercourse Level:       On ground surface         Permanent:       True         Watercourse Name:       Not Supplied         Catchment Name:       Hull         Primacy:       1	A7SE (SW)	977	4	518875 438173
124	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 317.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A7SE (SW)	979	4	518924 438150
125	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 225.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Hull Primacy: 1	A9SE (SE)	995	4	520187 438376
126	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 349.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: The Beck Catchment Name: Hull Primacy: 1	A24SW (NE)	997	4	519794 440150

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#### Waste

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Licensed Waste Ma	nagement Facilities (Locations)				
127	Licence Number: Location: Operator Name: Operator Location: Authority: Site Category: Licence Status: Issued: Last Modified: Expires: Suspended: Revoked: Surrendered: IPPC Reference: Positional Accuracy:	400996 West Newton ' A' Well Site, Fosham Road, Marton, Hull, East Yorkshire, HU11 5DA Rathlin Energy ( U K ) Limited Not Supplied Environment Agency - North East Region, Yorkshire Area Mining Waste Operations <b>Modified</b> 30th April 2014 23rd April 2014 23rd April 2020 Not Supplied Not Supplied Not Supplied Not Supplied Not Supplied Located by supplier to within 10m	A13SW (W)	0	2	519268 439131
	Local Authority Lan	dfill Coverage				
	Name:	East Riding of Yorkshire Unitary Authority - Has no landfill data to supply		0	5	519357 439141

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### Geological

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid	d Geology				
	Description:	White Chalk Subgroup	A13NE (SE)	0	1	519357 439141
	<b>Coal Mining Affecte</b>	d Areas				
	In an area that might	not be affected by coal mining				
	Non Coal Mining Ar	eas of Great Britain				
	No Hazard					
	Potential for Collaps	sible Ground Stability Hazards				
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	519357 439141
	Potential for Compr	essible Ground Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	519357 439141
	Potential for Ground	d Dissolution Stability Hazards				
	Hazard Potential: Source:	No Hazard British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	519357 439141
	Potential for Landsl	ide Ground Stability Hazards				
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	519357 439141
	Potential for Runnir	ng Sand Ground Stability Hazards				
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	519357 439141
	Potential for Shrink	ing or Swelling Clay Ground Stability Hazards				
	Hazard Potential: Source:	Very Low British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	519357 439141
	Radon Potential - R	adon Affected Areas				
	Affected Area:	The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level).	A13NE (SE)	0	1	519357 439141
	Source:	British Geological Survey, National Geoscience Information Service				
	Radon Potential - R	adon Protection Measures				
	Protection Measure: Source:	No radon protective measures are necessary in the construction of new dwellings or extensions British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	519357 439141

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#### **Sensitive Land Use**

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Nitrate Vulnerable 2	Zones				
128	Name: Description: Source:	Holderness Drain From Fordyke Stream To Humber Nvz Surface Water Environment Agency, Head Office	A13NE (SE)	0	3	519357 439141
	Sites of Special Sci	entific Interest				
129	Name: Multiple Areas: Total Area (m2): Source: Reference: Designation Details: Designation Date: Date Type:	Lambwath Meadows Y 295922.21 Natural England 1005735 Site Of Special Scientific Interest 17th November 1989 Notified	A19SE (NE)	786	6	520092 439696

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Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices East Riding of Yorkshire Council - Public Protection Division Environment Agency - Head Office	December 2014 June 2020	Annual Rolling Update Annually
Discharge Consents Environment Agency - North East Region	July 2020	Quarterly
Enforcement and Prohibition Notices Environment Agency - North East Region	March 2013	Annual Rolling Update
Integrated Pollution Controls Environment Agency - North East Region	October 2008	Variable
Integrated Pollution Prevention And Control Environment Agency - North East Region	July 2020	Quarterly
Local Authority Integrated Pollution Prevention And Control East Riding of Yorkshire Council - Public Protection Division	March 2013	Variable
Local Authority Pollution Prevention and Controls East Riding of Yorkshire Council - Public Protection Division	November 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements East Riding of Yorkshire Council - Public Protection Division	November 2014	Variable
Nearest Surface Water Feature Ordnance Survey	June 2020	
Pollution Incidents to Controlled Waters Environment Agency - North East Region	December 1998	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - North East Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - North East Region Participation October Strengt	March 2013	Annual Rolling Update
Registered Radioactive Substances Environment Agency - North East Region River Quality	June 2016	
Environment Agency - Head Office	November 2001	Not Applicable
Environment Agency - Head Office	July 2012	Annually
Environment Agency - Head Office	July 2012	Annually
Environment Agency - North East Region - Ridings Area Environment Agency - North East Region - Yorkshire Area	July 2020 July 2020	Quarterly Quarterly
Water Abstractions Environment Agency - North East Region	July 2020	Quarterly
Water Industry Act Referrals Environment Agency - North East Region	October 2017	Quarterly
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	October 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	June 2020	Quarterly

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Agency & Hydrological	Version	Update Cycle
Flooding from Rivers or Sea without Defences		
Environment Agency - Head Office	June 2020	Quarterly
Areas Benefiting from Flood Defences		
Environment Agency - Head Office	June 2020	Quarterly
Flood Water Storage Areas		
Environment Agency - Head Office	June 2020	Quarterly
Flood Defences	lupo 2020	Quarterly
CS Water Network Lines	June 2020	Quarteny
Ordnance Survey	June 2020	Quarterly
BGS Groundwater Flooding Suscentibility		Quantony
British Geological Survey - National Geoscience Information Service	May 2013	Annually
Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites	Ostables 2000	
Environment Agency - North East Region	October 2008	
Licensed Waste Management Facilities (Landfill Boundaries)	luby 2020	Quarterly
Environment Agency - North East Region - Yorkshire Area	July 2020	Quarterly
Licensed Waste Management Facilities (Locations)	0019 2020	Quantony
Environment Agency - North East Region - Ridings Area	Julv 2020	Quarterly
Environment Agency - North East Region - Yorkshire Area	July 2020	Quarterly
Local Authority Landfill Coverage		
East Riding of Yorkshire Council - Public Protection Division	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
East Riding of Yorkshire Council - Public Protection Division	May 2000	Not Applicable
Registered Landfill Sites		
Environment Agency - North East Region - Ridings Area	March 2003	Not Applicable
Environment Agency - North East Region - Yorkshire Area	March 2003	Not Applicable
Registered Waste Transfer Sites	March 2002	Not Applicable
Environment Agency - North East Region - Yorkshire Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - North East Region - Ridings Area	March 2003	Not Applicable
Environment Agency - North East Region - Yorkshire Area	March 2003	Not Applicable
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
East Riding of Yorkshire Council	October 2015	Variable
Planning Hazardous Substance Consents		
East Riding of Yorkshire Council	October 2015	Variable

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Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	June 2020	Bi-Annually
CBSCB Compensation District		
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas		
The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability		
Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	April 2020	Annually
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	July 2011	Annually
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries		
Thomson Directories	July 2020	Quarterly
Fuel Station Entries		
Catalist Ltd - Experian	June 2020	Quarterly
Gas Pipelines		
National Grid	July 2014	
Underground Electrical Cables		
National Grid	August 2020	

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Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	April 2020	Bi-Annually
Areas of Adopted Green Belt		
East Riding of Yorkshire Council - Planning Department	June 2020	As notified
Areas of Unadopted Green Belt		
East Riding of Yorkshire Council - Planning Department	June 2020	As notified
Areas of Outstanding Natural Beauty		
Natural England	June 2019	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	April 2020	Bi-Annually
Marine Nature Reserves		
Natural England	July 2019	Bi-Annually
National Nature Reserves		
Natural England	July 2019	Bi-Annually
National Parks		
Natural England	April 2017	Bi-Annually
Nitrate Sensitive Areas		
Natural England	April 2016	Not Applicable
Nitrate Vulnerable Zones		
Environment Agency - Head Office	December 2017	Bi-Annually
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	
Ramsar Sites		
Natural England	August 2020	Bi-Annually
Sites of Special Scientific Interest		
Natural England	May 2020	Bi-Annually
Special Areas of Conservation		
Natural England	July 2020	Bi-Annually
Special Protection Areas		
Natural England	April 2019	Bi-Annually



#### **Data Suppliers**

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	Map data
Environment Agency	Environment Agency
Scottish Environment Protection Agency	SEPÃO Scottish Environment Protection Agency
The Coal Authority	The Coal Authority
British Geological Survey	British Geological Survey
Centre for Ecology and Hydrology	Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	Cyfoeth Naturiol Cymru Natural Resources Wales
Scottish Natural Heritage	SCOTTISH NATURAL HERITAGE
Natural England	NATURAL ENGLAND
Public Health England	Public Health England
Ove Arup	ARUP
Stantec UK Ltd	<b>Stantec</b>

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### **Useful Contacts**

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
4	<b>Ordnance Survey</b> Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	East Riding of Yorkshire Council - Public Protection Division Council Offices, Church Street, GOOLE, East Riding Of Yorks, DN14 5BG	Telephone: 08457 887700 Fax: 01482 396104 Website: www.eastriding.gov.uk/
6	Natural England County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.



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#### Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

#### Slice

Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

#### Segment

A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

#### Quadrant

A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:





British **Geological Survey** 





Envirocheck reports are compiled from 136 different sources of data.

#### **Prepared For**

Rathlin Energy (UK) Limited West Newton A Development Fosham Road Marton Hull HU11 5DA

#### **Client Details**

Mr J Foster, Zetland Group Ltd, The Innovation Centre, Vienna Court, Kirkleatham Business Park, REDCAR, North Yorkshire, TS10 5SH

#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Site Area (Ha): Search Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT 3.32 1000

#### Site Details

Site at 519270, 439130

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#### Conoral

General	
🖒 Specified Site 🛛 🖒 Specified Buffer(s)	X Bearing Reference Point 8 Map ID
Several of Type at Location	
Agency and Hydrological	Waste
Contaminated Land Register Entry or Notice (Location)	BGS Recorded Landfill Site (Location)
Contaminated Land Register Entry or Notice	🔀 BGS Recorded Landfill Site
🔶 Discharge Consent	🛑 EA Historic Landfill (Buffered Point)
A Enforcement or Prohibition Notice	EA Historic Landfill (Polygon)
A Integrated Pollution Control	Integrated Pollution Control Registered     Waste Site
Integrated Pollution Prevention Control	Licensed Waste Management Facility
Local Authority Integrated Pollution Prevention and Control	Licensed Waste Management Facility (Loo
A Local Authority Pollution Prevention and Control	ما Local Authority Recorded Landfill Site (م
Control Enforcement	Local Authority Recorded Landfill Site
Pollution Incident to Controlled Waters	🚫 Registered Landfill Site
V Prosecution Relating to Authorised Processes	Registered Landfill Site (Location)
Prosecution Relating to Controlled Waters	Registered Landfill Site (Point Buffered to 10
🔺 Registered Radioactive Substance	Registered Landfill Site (Point Buffered to 2
🥆 River Network or Water Feature	Registered Waste Transfer Site (Location)
🖶 River Quality Sampling Point	IIII Registered Waste Transfer Site
合 Substantiated Pollution Incident Register	Registered Waste Treatment or Disposal : (Location)
🔶 Water Abstraction	Registered Waste Treatment or Disposal
🔶 Water Industry Act Referral	Hazardous Substances
Geological	🛃 COMAH Site
BGS Recorded Mineral Site	🙀 Explosive Site

#### Industrial Land Use

- ★ Contemporary Trade Directory Entry
- 🗙 Fuel Station Entry
- Site Sensitivity Map Slice A -A13-A3 A4

#### **Order Details**

Order Number:
Customer Ref:
National Grid Reference:
Slice:
Site Area (Ha):
Search Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT 519360, 439140 Α 3.32





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- A Landmark Information Group Service v50.0 09-Sep-2020 Page 1 of 5

1000

- I Authority Recorded Landfill Site

- stered Waste Tra⊓sfer Site (Location)
- stered Waste Transfer Site
- stered Waste Treatment or Disposal Site

#### rdous Substances

- 🙀 NIHHS Site
- 🗱 Planning Hazardous Substance Enforcement

- te Site nsed Waste Management Facility Ifill Boundary) nsed Waste Management Facility (Location) stered Landfill Site
  - Authority Recorded Landfill Site (Location)

  - stered Landfill Site (Location)
  - stered Landfill Site (Point Buffered to 100m)
  - stered Landfill Site (Point Buffered to 250m)

  - stered Waste Treatment or Disposal Site

- IAH Site
- 🛃 Explosive Site
- 🗱 Planning Hazardous Substance Consent





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#### General

🔼 Specified Site

- C Specified Buffer(s)
- X Bearing Reference Point

#### Agency and Hydrological (Flood)

Extreme Flooding from Rivers or Sea without Defences (Zone 2)

Flooding from Rivers or Sea without Defences (Zone 3)

Area Benefiting from Flood Defence



Flood Water Storage Areas

--- Flood Defence

#### Flood Map - Slice A



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT А 3.32 1000







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#### General

🔼 Specified Site C Specified Buffer(s) X Bearing Reference Point 8 Map ID Several of Type at Location

#### Agency and Hydrological (Boreholes)

- 😑 BGS Borehole Depth 0 10m
- BGS Borehole Depth 10 30m
- 🔴 BGS Borehole Depth 30m +
- Confidential

🔿 Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

## **Borehole Map - Slice A** A23 -A1 - A13-A2 Åз A'4

#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT А 3.32 1000







Tel: Fax: Web:



#### **APPENDIX 3 - HISTORICAL MAPS**

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### **Envirocheck® Report:**

### Historical Data Report Datasheet

#### **Order Details:**

Order Number: 256392419\_1\_1

Customer Reference: WNA-FIELD DEVELOPMENT

## National Grid Reference: 519360, 439140

Slice:

А

Site Area (Ha): 3.32

Search Buffer (m): 1000

Site Details: Site at 519270, 439130

#### **Client Details:**

Mr J Foster Zetland Group Ltd The Innovation Centre Vienna Court Kirkleatham Business Park REDCAR North Yorkshire TS10 5SH

#### **Prepared For:**

Rathlin Energy (UK) Limited West Newton A Development Fosham Road Marton Hull HU11 5DA



## Envirocheck LANDMARK INFORMATION GROUP\*

### Contents

Report Section	Page Number
Summary	-
Historical Building Plans Information	-
Historical Land Use Information	1
Historical Tanks and Energy Facilities	-
Historical Map List	2
Useful Contacts and Further Information	3

#### Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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### Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Building Plans Information					
Areas Cleared Due To Enemy Action					
Above Ground Fuel Tanks (100m)				n/a	n/a
Asbestos (100m)				n/a	n/a
Benzene/Benzole/Naphtha, Naphthalene/Kerosene (100m)				n/a	n/a
Electricity Generation (100m)				n/a	n/a
Electricity Sub-Stations (100m)				n/a	n/a
Gas Industry (100m)				n/a	n/a
Gas Storage (100m)				n/a	n/a
Gas Use (100m)				n/a	n/a
Oil Industry (100m)				n/a	n/a
Oil Storage (100m)				n/a	n/a
Oil Use (100m)				n/a	n/a
Paint based Oils (100m)				n/a	n/a
Paraffin (100m)				n/a	n/a
Petrol and Diesel Industry (100m)				n/a	n/a
Petrol and Diesel Storage (100m)				n/a	n/a
Petrol and Diesel Use (100m)				n/a	n/a
Potential Fuel Gas (100m)				n/a	n/a
Potential Fuel Oil (100m)				n/a	n/a
Potential Fuel Use (100m)				n/a	n/a
Potential Petrol and Diesel (100m)				n/a	n/a
Potential Tanks (100m)				n/a	n/a
Potentially Fuel-related Tanks (100m)				n/a	n/a
Underground Fuel Tanks (100m)				n/a	n/a
Historical Land Use Information					
Former Marshes					
Historical Flood Liabilities	pg 1				1
Potentially Contaminative Industrial Uses (Past Land Use)	pg 1				1
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)	pg 1				2

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### Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Tanks and Energy Facilities					
Electrical Sub Station Facilities (100m)				n/a	n/a
Electricity Industry Facilities (100m)				n/a	n/a
Gas Industry Facilities (100m)				n/a	n/a
Gas Monitoring Facilities (100m)				n/a	n/a
Miscellaneous Power Facilities (100m)				n/a	n/a
Oil Industry Facilities (100m)				n/a	n/a
Petroleum Storage Facilities (100m)				n/a	n/a
Potential Tanks (100m)				n/a	n/a
Tanks (100m)				n/a	n/a

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### **Historical Land Use Information**

Map ID		Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Historical Flood Li	abilities				
1	Use: Date of Mapping:	Area liable to flood 1892	A19SE (NE)	749	1	520112 439605
	Potentially Contan	ninative Industrial Uses (Past Land Use)				
2	Use: Date of Mapping:	Cemetery or Graveyard 1855	A7NE (SW)	511	1	518920 438690
	Potentially Infilled	Land (Water)				
3	Use: Date of Mapping:	Unknown Filled Ground (Pond, marsh, river, stream, dock etc) 1956	A19NW (NE)	972	1	519947 440056
	Potentially Infilled	Land (Water)				
4	Use: Date of Mapping:	Unknown Filled Ground (Pond, marsh, river, stream, dock etc) 1956	A23SE (N)	983	1	519671 440168



#### No Historical Building Plans information available.

#### The following mapping has been analysed for Historical Land Use Information:

1:10,560	Mapsheet	Published Date
Yorkshire	212_00	1855
Yorkshire	212_NE	1892
Yorkshire	212_NW	1892
Yorkshire	212_SE	1892
Yorkshire	212_SW	1892
Yorkshire	212_NW	1910
Yorkshire	212_SE	1910
Yorkshire	212_NE	1911
Yorkshire	212_NW	1951
Yorkshire	212_NE	1952
Yorkshire	212_SE	1952
Yorkshire	212_SW	1952
Ordnance Survey Plan	TA13NE	1956
Ordnance Survey Plan	TA14SE	1956
Ordnance Survey Plan	TA23NW	1956
Ordnance Survey Plan	TA24SW	1957
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	TA23NW	1978
Ordnance Survey Plan	TA13NE	1980
Ordnance Survey Plan	TA24SW	1981
Ordnance Survey Plan	TA14SE	1983

#### The following mapping has been analysed for Historical Tanks and Energy Facilities:

1:2,500	Mapsheet	Published Date
Ordnance Survey Plan	TA1938	1975
Ordnance Survey Plan	TA1939	1975

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### **Useful Contacts and Further Information**

Contact	Name and Address	Contact Details
1	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9966 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk

#### **Historical Building Plans Information**

This data set contains potentially contaminative features such as asbestos, petrol, oil and tanks captured from Historical Building Plans. The Historical Building Plans were produced by the London-based firm Charles E. Goad Ltd. as fire insurance plans, dating back to 1885. The firm ceased production of fire insurance plans in 1970. Most of the important towns and cities of the British Isles are covered. Historical Building Plans are usually at the scales of 1:480 (1 inch to 40 feet) for the British Isles. They were updated every 5-6 years by means of revision sheets designed to be pasted on to the original plans.

It should be noted that Historical Building Plans are only available for certain major towns and cities and in some cases there may only be partial coverage of the search area. It cannot therefore be assumed that the absence of responses under the Historical Building Plans section of this report indicates that no hazards exist. Please check the Historical Building Plans Map List table in the Historical Map List section of this report to establish if Historical Building Plans are available for this search area.

#### **Historical Land Use Information**

Landmark's Historical Land Use Data is the result of combined analysis of historical map data captured at 1:10,560 and 1:10,000. A unique comprehensive database of Historic Land Use from the 1840's to 1996 it includes 67 different types of potentially contaminated past industrial land use. This entailed analysing over 60,000 maps and is drawn from at least four, and up to six historical map editions. In addition a seventh layer was also created, known as the land use layer, containing areas of infilled land which are plotted via comparison between two or more map editions.

#### **Historical Tanks and Energy Facilities**

In addition to HLUD, additional analysis uncovered some of the most dangerous sources of contamination (past and present tanks, petrol storage, oil, gas, electricity, miscellaneous facilities). This data set covers over 390,000 Historical Tanks and Energy facilities in Great Britain and was captured from post war 1:2500 and 1:1250 Ordnance Survey historical mapping covering a period from 1943 to 1996.



#### General

🖒 Specified Site 🖒 Specified Buffer(s) 🕺 Bearing Reference Point 🛽 Map ID Several of Type at Location

#### Historical Building Plans

- Area Cleared due to Enemy Action
- 🛆 Asbestos
- Above Ground Fuel Tanks
- Benzene/Benzole/Naphtha, Naphthalene/Kerosene
- A Electricity Generation
- V Electricity Sub-Stations
- 🛆 Gas Industry
- ┝ Gas Storage
- 😾 Gas Use
- A Oil Industry
- 🕨 Oil Storage
- 🔻 Oil Use

#### ┥ Paint based Oils

- 🛕 Paraffin
- A Petrol and Diesel Industry
- Petrol and Diesel Storage
- ▼ Petrol and Diesel Use
- A Potential Fuel Gas
- Potential Fuel Oil
- V Potential Fuel Use
- Potential Petrol and Diesel
- A Potential Tanks
- Potentially Fuel-related Tanks
- Underground Fuel Tanks

#### Historical Tanks and **Energy Facilities**

- (B) Electrical Sub Station Facility
- Electricity Industry Facility
- 🔞 Gas Industry Facility
- 🚫 Gas Monitoring Facility
- Miscellaneous Power Facility
- 🔘 Oil Industry Facility
- (S) Petroleum Storage Facility
- (P) Potential Tank
- 🗇 Tank

#### Historical Data Report - Segment A13



#### **Order Details**

Order Number:
Customer Ref:
National Grid Reference
Slice:
Site Area (Ha):
Plot Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT : 519360, 439140 А 3.32 100



Site at 519270, 439130



Tel: Fax: Web:



#### General

- 🖒 Specified Site 🖒 Specified Buffer(s) 🕺 Bearing Reference Point 🛽 Map ID Several of Type at Location

#### Historical Building Plans

Area Cleared due to Enemy Action

#### Historical Land Use

- 🙀 Former Marsh
- 👌 Historical Flood Liability
- 🕂 Historical Flood Liability (Location)
- Potentially Contaminative Industrial Use (Past Land Use)
- Potentially Contaminative Industrial Use (Past Land Use) (Linear)
- Potentially Contaminative Industrial Use (Past Land Use) (Location)
- Potentially Infilled Land (Non-Water)
- Potentially Infilled Land (Non-Water) (Linear)
- Potentially Infilled Land (Non-Water) (Location)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water) (Linear)
- Potentially Infilled Land (Water) (Location)

#### Historical Data Report - Slice Map A



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT А 3.32 1000



Site at 519270, 439130







#### **Historical Mapping & Photography included:**

Mapping Type	Scale	Date	Pg
Yorkshire	1:2,500	1891	2
Yorkshire	1:2,500	1910	3
Yorkshire	1:2,500	1927	4
Ordnance Survey Plan	1:2,500	1975	5
Large-Scale National Grid Data	1:2,500	1994	6

#### **Historical Map - Segment A13**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

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Site at 519270, 439130



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### Yorkshire

### Published 1891

### Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

#### Map Name(s) and Date(s)



#### **Historical Map - Segment A13**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

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Site at 519270, 439130







### Yorkshire

### Published 1910

### Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

#### Map Name(s) and Date(s)



#### **Historical Map - Segment A13**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

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### Yorkshire

### Published 1927

#### Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

#### Map Name(s) and Date(s)



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#### **Historical Map - Segment A13**

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#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

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### **Ordnance Survey Plan**

#### Published 1975

#### Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

#### Map Name(s) and Date(s)



#### **Historical Map - Segment A13**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT Α 3.32 100



Site at 519270, 439130





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### Large-Scale National Grid Data Published 1994

#### Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

#### Map Name(s) and Date(s)



#### **Historical Map - Segment A13**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT Α 3.32 100



Site at 519270, 439130



## **Historical Mapping Legends**

Ordnance	e Survey County Series 1:10,560	Ordnance Survey Plan 1:10,000	1:10,000 Raster Mapping
Grav Pit	vel Sand Other Pit Pits	مت من Chalk Pit, Clay Pit من Chalk Pit, Clay Pit من Chalk Pit, Clay Pit من Chalk Pit	Gravel Pit Gravel Pit Gravel Pit
C Qua	rry Shingle Orchard	Sand Pit Disused Pit	Rock (scattered)
<u>پ</u> ۲۰ ۲۰ ۴۰ ۲۰ ۲۰ ۴۰ ۲۰ ۴۰ ۴۰ ۲۰ ۴۰ ۴۰ ۲۰ ۴۰ ۴۰ ۲۰ ۴۰	ers	Refuse or Lake, Loch	ີ້ໍີຄັ້ Boulders ເວັ້າເປັນ Boulders ເscattered)
. * ; * 0 * . * 2 * * * * * * * * * * * * * * * * *	A Construction of the second s	Dunes දී වී Boulders	Shingle Mud Mud
Mixed Woo	d Deciduous Brushwood	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Sand Sand Sand Pit
			Slopes rentretter Top of cliff
Fir	Furze Rough Pasture	ຊັ່> ຊັ່> Orchard ທີ່ທ_ Scrub \Υູ <sub>N</sub> Coppice ຖື Î Bracken ແມ່ມທະ Heath ເບິ່ນ , , Rough ຖື Grassland	General detail — — — — Underground detail — — — Overhead detail ······ Narrow gauge railway Multi-track Single track
₩₩₩₩₩₩₩₩₩ flo	rrow denotes <u>a</u> Trigonometrical ow of water Station	<u> معا</u> يد Marsh ،،،،∨/،، Reeds <u>معا</u> دد Saltings	railway Civil parish or
r <b>∔•</b> Si	ite of Antiquities 🔹 🛧 Bench Mark	Direction of Flow of Water Building	County boundary (England only)
P Si • <b>285</b> S	ump, Guide Post, Well, Spring, ignal Post Boundary Post urface Level	Glasshouse Glasshouse	Metropolitan, Constituency London Borough boundary boundary
Sketched	Instrumental Contour	Pylon — — — — Electricity Transmission — — — — — Transmission Pole Line	Area of wooded vegetation Area of vegetation Area of v
Main Roads	Fenced Minor Roads	Cutting Embankment Standard Gauge	
	Sunken Road Raised Road	Road '''∏''' Road / Level Foot Under Over Crossing Bridge	今 今 今 今 今 今 Orchard 化 化 Coppice or Osiers
And	Railway over Railway over Railway River	Siding, Tramway or Mineral Line Narrow Gauge	ளம் Rough எஸ் Grassland ஸா//ச Heath
""utilities and the second	Railway over Level Crossing	Geographical County	∩o_ Co_ Scrub J⊻∠ Marsh, Salt J⊻∠ Marsh or Reeds
	Road over Road over River or Canal Stream	Administrative County, County Borough or County of City Municipal Borough, Urban or Rural District.	Water feature Flow arrows
	Road over Stream	Burgh or District Council Borough, Burgh or County Constituency Shown only when not coincident with other boundaries	MHW(S)         Mean high water (springs)         MLW(S)         Mean low water (springs)
	County Boundary (Geographical)	Civil Parish Shown alternately when coincidence of boundaries occurs	Telephone line (where shown)
<u> </u>	County & Civil Parish Boundary Administrative County & Civil Parish Boundary	BP, BS Boundary Post or Stone Pol Sta Police Station	(with poles) ← Bench mark Triangulation BM 123.45 m (where shown) △ station
Co. Boro. Bdv	County Borough Boundary (England)	Ch Church PO Post Office CH Club House PC Public Convenience F E Sta Fire Engine Station PH Public House	Point feature Pylon, flare stack ◆ (e.g. Guide Post ⊠ Pylon, flare stack
Co. Burgh Bdy.	County Burgh Boundary (Scotland)	FB Foot Bridge SB Signal Box Fn Fountain Spr Spring	or lighting tower
yv. RD. Bdy.	Rural District Boundary	GP     Guide Post     TCB     Telephone Call Box       MP     Mile Post     TCP     Telephone Call Post	Giassnouse
······	Ci∨il Parish Boundary	MS Mile Stone W Well	General Building Building

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#### Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Yorkshire	1:10,560	1855	2
Yorkshire	1:10,560	1892	3
Yorkshire	1:10,560	1910 - 1911	4
Yorkshire	1:10,560	1928 - 1929	5
Yorkshire	1:10,560	1951 - 1952	6
Ordnance Survey Plan	1:10,000	1956 - 1957	7
Ordnance Survey Plan	1:10,000	1978	8
Ordnance Survey Plan	1:10,000	1980 - 1983	9
10K Raster Mapping	1:10,000	1999	10
Street View	Variable		11

#### Historical Map - Slice A



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

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Site at 519270, 439130













# **Envirocheck**<sup>®</sup>

### Yorkshire

### Published 1951 - 1952 Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.





### **Ordnance Survey Plan** Published 1956 - 1957 Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

#### Map Name(s) and Date(s)

TA14SE | TA24SW | 1956 | 1957 | 1:10,560 | 1:10,560 | 1 - 1 TA13NE TA23NW 1956 | 1956 | 1:10,560 | 1:10,560 | 1956 Т

#### **Historical Map - Slice A**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

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### **Ordnance Survey Plan** Published 1980 - 1983 Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

#### Map Name(s) and Date(s)

TA14SE | TA24SW | 1983 | 1981 | 1:10,000 | 1:10,000 | 1 TA13NE 1980 1:10,000

#### **Historical Map - Slice A**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

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### **10k Raster Mapping**

#### Published 1999

#### Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

#### Map Name(s) and Date(s)



#### **Historical Map - Slice A**



#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT Α 3.32 1000



Site at 519270, 439130



Tel: Fax: Web:



## Envirocheck® LANDMARK INFORMATION GROUP\*

### **Street View**

#### Published 2020

#### Source map scale - 1:10,000

Street View is a street-level map for the whole of Great Britain produced by the Ordnance Survey. These maps are provided at a nominal scale of 1:10,000

#### Map Name(s) and Date(s)





#### **Order Details**

Order Number: Customer Ref: National Grid Reference: 519360, 439140 Slice: Site Area (Ha): Search Buffer (m):

256392419\_1\_1 WNA-FIELD DEVELOPMENT А 3.32 1000







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Tel: