

Permit with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

Rathlin Energy (UK) Limited

Crawberry Hill Well Site
Rathlin Energy (UK) Limited
Land Southwest of Crawberry Hill
Walkington Heads
Beverley
HU17 8RU

Permit number
EPR/BB3000KC

Crawberry Hill Well Site

Permit number EPR/BB3000KC

Introductory note

This introductory note does not form a part of the permit

The main features of the permit are as follows.

The permit authorises the operation of a mining waste operation at Crawberry Hill well site, namely the management of extractive waste from prospecting for mineral resources. The Crawberry Hill well site is located immediately north of Walkington Heads, Beverley within the East Riding of Yorkshire area. The permit also allows flaring of waste gas arising from onshore oil and gas. As the gas to be flared will be above 10 tonnes per day, the permitted activities include an activity listed in Schedule 1 of the Environmental Permitting (England and Wales) Regulations 2010.

The Crawberry Hill well site has been constructed by removing the topsoil and cut to fill the subsoil to create a level plateau. A bund made up of a containment ditch was created around the site. A 1mm fully welded high density polyethylene membrane was laid across the site and surrounding perimeter containment ditches. The impermeable membrane was then covered with a 300mm layer of MOT Type 1 stone. Following construction of the site, a borehole which is 2,750 metres in depth was drilled on site. The drilling was done in two separate phases. The first phase involved drilling using a conventional water well drilling rig to drill the surface conductor to a depth of 203 metres. The second phase involved drilling with a conventional oilfield drilling rig to 2,750 metres. The bottom end of the well will be off-set from the well entrance. It is proposed to drill a second exploratory borehole on the same site using methods similar to those adopted in drilling the first borehole.

The prospecting activities are targeting rock layers that lie between 1,500 metres and 2,750 metres depth. It is anticipated that these conventional reservoir targets may hold either gas or oil. The previously drilled borehole and the proposed new borehole will be subjected to a well maintenance, drilling and a testing programme involving the following operations in chronological order,

- Well maintenance
- Minifall off test in the Upper Viséan/Lower Namurian shale formation
- Pressure monitoring and flow test in the Lower Namurian sandstone formation
- Acid wash/squeeze and flow test in the Permian carbonate formation
- Drilling of second permitted well; and
- Well abandonment

The flow test involves the separation of natural gas from produced fluids which are expected to be a mixture of formation water, oil and condensate. The gas will be tested and then sent to an enclosed single point flare located on the site for incineration. At the point of incineration the natural gas is considered a waste.

The status log of the permit sets out the permitting history, including any changes to the permit reference number.

Status log of the permit		
Description	Date	Comments
Application EPR/BB3000KC/A0001	Duly made 04/02/2014	Application for an environmental permit for the management of waste and flaring of waste gas.
Additional information received	23/03/2014	Revised site condition report.
Additional information received	17/03/2014	Revised dispersion air quality assessment report
Additional information received	25/03/2014	Applicant's comments and clarification on issues arising during consultation
Additional information received	22/04/2014	Revised waste management plan
Permit determined	02/05/2014	Permit issued to Rathlin Energy (UK) Limited

End of introductory note

Permit

The Environmental Permitting (England and Wales) Regulations 2010

Permit number
EPR/BB3000KC

The Environment Agency hereby authorises, under regulation 13 of the Environmental Permitting (England and Wales) Regulations 2010

Rathlin Energy (UK) Limited (“the operator”),
whose registered office is

20-22 Bedford Row
London
WC1R 4JS

company registration number **06478035**

to operate an installation and a mining waste operation at

Crawberry Hill Well site
Rathlin Energy (UK) Limited
Land South West of Crawberry Hill
Walkington Heads
Beverley
HU17 8RU

to the extent authorised by and subject to the conditions of this permit.

Name	Date
Team Leader Oil, Gas and Mineral Permitting Team	02/05/2014

Authorised on behalf of the Environment Agency

Conditions

1 Management

1.1 General management

- 1.1.1 The operator shall manage and operate the activities:
- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
 - (b) using sufficient competent persons and resources.
- 1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.
- 1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

2 Operations

2.1 Permitted activities

- 2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the "activities").

2.2 The site

- 2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

2.3 Operating techniques

- 2.3.1 (a) *For the following activities referenced in schedule 1, table S1.1 (A1 and A2)*
The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.
- (b) If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation ("plan") specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 2.3.2 The operator shall review the waste management plan every five years from the date of initial approval.

2.4 Pre-operational conditions

- 2.4.1 The activities shall not be brought into operation until the measures specified at PO1 and PO2 in schedule 1 table S1.3 have been completed.
- 2.4.2 The flare shall not be brought into operation until the measures specified in PO3 and PO4 of schedule 1 table S 1.3 have been completed and the operator has received written approval from the Environment Agency.

3 Emissions and monitoring

3.1 Emissions to water, air or land

- 3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1.
- 3.1.2 The limits given in schedule 3 shall not be exceeded.

3.2 Emissions of substances not controlled by emission limits

- 3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.
- 3.2.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
 - (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.
- 3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

3.3 Odour

- 3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.
- 3.3.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
 - (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.4 Noise and vibration

- 3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.
- 3.4.2 The operator shall:
- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
 - (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.5 Monitoring

- 3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:
- (a) point source emissions specified in table S3.1
 - (b) groundwater monitoring specified in table S3.2
- 3.5.2 The operator shall maintain records of all monitoring required by this permit including records of the taking and analysis of samples, instrument measurements (periodic and continual), calibrations, examinations, tests and surveys and any assessment or evaluation made on the basis of such data.
- 3.5.3 The operator shall carry out:
- (a) regular calibration, at an appropriate frequency, of systems and equipment provided for carrying out any monitoring and measurements necessary to determine compliance with these rules; and
 - (b) regular checking, at an appropriate frequency, that such systems and equipment are serviceable and correctly used
- 3.5.4 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.3.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.5 If required by the Environment Agency, the operator shall
- (a) take such samples and conduct such measurements, tests, surveys, analyses and calculations, including environmental measurements and assessments, at such times and using such methods and equipment as the Environment Agency may reasonably specify and
 - (b) keep samples, provide samples, or dispatch samples for tests at a laboratory, as the Environment Agency reasonably specifies, and ensure that the samples or residues thereof are collected from the laboratory within three months of receiving written confirmation that testing and repackaging in accordance with the relevant legislation are complete.

- 3.5.6 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1 and S3.2, unless otherwise agreed in writing by the Environment Agency.
- 3.5.7 The operator shall, prior to, or on commencement of flaring, and monthly thereafter; analyse the flare feed gas. The analysis shall include speciation and concentration of organic substances, carbon monoxide, sulphur containing compounds, halogen containing compounds and moisture. A report of this analysis shall be submitted to the Environment Agency within 28 days of completion of the analysis.
- 3.5.8 The operator shall by calculation determine the emissions of the substances identified in table S3.1, based on the feed gas composition analysis, feed gas flow rate and combustion efficiency of the flare.
- 3.5.9 The operator shall carry out ambient air monitoring as approved with the Environment Agency in response to condition 2.4.1 and specified in pre-operational measure PO 4 in Schedule 1, Table S1.3.

4 Information

4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
 - (b) be made as soon as reasonably practicable;
 - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
 - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
 - (i) off-site environmental effects; and
 - (ii) matters which affect the condition of the land and groundwater.
- 4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

4.2 Reporting

- 4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.
- 4.2.2 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:
- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
 - (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.2 ; and

- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.3 Notifications

- 4.3.1 (a) In the event that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
 - (i) inform the Environment Agency,
 - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
 - (iii) take the measures necessary to prevent further possible incidents or accidents;
 - (b) in the event of a breach of any permit condition the operator must immediately—
 - (i) inform the Environment Agency, and
 - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
 - (c) in the event of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.
- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
 - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
 - (b) any steps taken with a view to the dissolution of the operator.
- In any other case:
- (a) the death of any of the named operators (where the operator consists of more than one named individual);
 - (b) any change in the operator's name(s) or address (es); and

- (c) any steps taken with a view to the operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case of them being in a partnership, dissolving the partnership.

4.3.5 *For the following activities referenced A2 in schedule 1, table S1.1*

Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:

- (a) the Environment Agency shall be notified at least 14 days before making the change; and
- (b) the notification shall contain a description of the proposed change in operation.

4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.

4.4 Interpretation

4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.

4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made “without delay”, in which case it may be provided by telephone.

Schedule 1 - Operations

Table S1.1 activities		
Activity reference	Description of activities	Limits of activities and waste types
A1 – Mining waste operation	<p>A mining waste operation for the management of extractive waste including gas from prospecting for mineral resources, not involving a waste facility.</p> <p>The management of extractive waste generated by well abandonment</p>	<p>Permitted waste types shall conform to the description in the approved waste management plan.</p> <p>The activities shall be limited to the following extractive waste types – non-hazardous water based drilling muds, non-hazardous spent conditioning spacer, non-hazardous drill cuttings, non-hazardous excess solidified cement, non-hazardous formation water, non-hazardous clays and sand, non-hazardous spent hydrochloric acid and calcium chloride, and natural gas and nitrogen.</p> <p>The activities shall be limited to those described in the approved Waste Management Plan referenced RE-05-EPRA-CH-005 dated 22/04/2014.</p> <p>Drilling additives shall be approved in writing by the Environment Agency prior to use.</p> <p>The activities shall be limited to the management of waste arising from the prospecting for oil and/or gas.</p>
A2 – Gas flare	<p>Schedule 1 section 5.1 (a)</p> <p>The incineration of hazardous waste in a waste incineration plant or waste co-incineration plant with a capacity exceeding 10 tonnes per day as listed in Schedule 1 section 5.1 (a) of the EP Regulations</p>	<p>Limited to flaring of waste gas, from onshore oil and gas exploration and appraisal activities, produced from well testing activities using an enclosed ground flare.</p>

Table S1.2 Operating techniques

Description	Parts	Date Received
Site plans RE-05-EPRA-CH-SP-004	All	04/02/2014
Waste Management Plan RE-05-EPRA-CH-WMP-005 Rev 2 including Groundwater Management Plan Rev 2	All	22/04/2014
Environmental Risk Assessments RE-05-EPRA-CH-ERA-007	All	04/02/2014
Dispersion modelling assessment of the impact of gas flaring at West Newton well site on local air quality Report number 131123-CH revision 2	All	17/03/2014
West Newton Well site Groundwater Management Plan Exploration Operations RE-05-EPRA-CH-GWMP-010 Rev 2	All	17/04/2014
Environmental Management System Policy Manual RE-02-002	All	30/01/2014

Table S1.3 Pre-operational measures

Reference	Pre-operational measures
PO 1	The Operator shall submit for approval by the Environment Agency details of the proposed location, depth and construction of the required monitoring boreholes for groundwater quality sampling at least four weeks prior to the commencement of the permitted activities and have obtained the written approval to the details by the Environment Agency.
PO 2	At least 2 weeks before the commencement of permitted activities the operator shall submit to the Environment Agency a report that details the as built monitoring borehole designs and describes the baseline groundwater quality sampling for the site. The chemical sampling suite presented in Table S3.2 of this permit shall be used for the baseline groundwater quality sampling programme.
PO 3	At least 2 week prior to operation the operator shall submit to the Environment Agency for approval the following information in relation to the operation of the flare: <ul style="list-style-type: none"> i) The design combustion efficiency of the flare across the expected feed gas flow range. ii) The design temperature in the combustion chamber at which the combustion efficiency specified in (i) above will be achieved iii) Details of the continuous monitoring methods to be employed for measuring the flare temperature and flare feedgas flowrate. iv) Control measures to ensure that the design flare temperature is maintained.
PO 4	At least 4 weeks prior to commencement of the gas flaring activity the operator shall submit to the Environment Agency for approval details of the ambient air monitoring programme that they will undertake before, during and after the period of gas flaring .

Schedule 2 - Waste types, raw materials and fuels

The disposal or recovery of non-extractive wastes are not permitted activities and there are no restrictions on raw materials or fuels under this schedule.

Schedule 3 – Emissions and monitoring

Table S3.1 point source emissions to air – emission limits and monitoring					
Emission point ref. and location	Parameter	Source	Limit (including unit)	Monitoring frequency	Monitoring standard or method (Note1)
Gas flare	Oxides of nitrogen	Gas flare	None set	Monthly	By calculation in accordance with condition 3.5.8
	Oxides of sulphur expressed as SO ₂		None set	Monthly	By calculation in accordance with condition 3.5.8
	Carbon monoxide		None set	Monthly	By calculation in accordance with condition 3.5.8
	Methane		None set	Monthly	By calculation in accordance with condition 3.5.8
	Total non methane volatile organic compounds		None set	Monthly	By calculation in accordance with condition 3.5.8
	Flare gas feed rate		None set	Continuous	Note 1
	Flare temperature		None set	Continuous	Note 1

Note 1: As reported in response to condition 2.4.1 and Schedule 1, table S1.3, reference PO 3.

Table S3.2 Groundwater monitoring requirements

Location or description of point of measurement	Parameter	Monitoring frequency	Monitoring standard or method	Other specifications
Monitoring points as indicated in pre-operational measure PO1 in table S1.3, schedule 1	Mercury and its compounds expressed as mercury (Total Hg)	a) Prior to commencement of any operations: sample once	As approved in writing by the Environment Agency	
	Cadmium and its compounds expressed as cadmium (Total Cd)	every 4 weeks;	As approved in writing by the Environment Agency	
	pH	b) During periods of testing: sample once every 4 weeks, with first sample collected on	As approved in writing by the Environment Agency	
	BOD	eve of testing	As approved in writing by the Environment Agency	
	Inorganic determinants Turbidity, pH, Total Suspended Solids, Alkalinity, Hardness, Sulphate, Chloride, Nitrate, Calcium, Magnesium and Potassium	c) Outside of testing : sample once every three months	As approved in writing by the Environment Agency	
Organic determinants BTEX including MTBE by GC/MS, Total petroleum hydrocarbons (speciated TPH Working Group criteria (UK) aromatic and aliphatic banding) Methane		As approved in writing by the Environment Agency		

Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Table S4.1 Reporting of monitoring data

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
The following emissions to air parameters as required by condition 3.5.1.	Gas flare and the following monitoring points as indicated on the site plan: Air quality monitoring location 1, air quality monitoring location 2, air quality monitoring location 3; and air quality monitoring location 4	Within 1 month of commencing flaring and then every month thereafter until cessation of flaring activities	Date of permit issue
Oxides of Nitrogen			
Carbon monoxide			
Total volatile organic compounds including methane			
Flare gas feed rate	Gas flare	As required by the Environment Agency	Date of permit issue
Flare temperature			
Groundwater monitoring parameters As listed in Table S3.2 under Parameters	Monitoring points as indicated in pre-operational measure PO1 in table S1.3, schedule 1	As set out in Table S3.2 under monitoring frequency	Date of permit issue

Table S4.2 Reporting forms

Media/parameter	Reporting format	Date of form
Air	Form Air1 or other form as agreed in writing by the Environment Agency	02/05/2014
Groundwater quality	Form Groundwater1 or other form as agreed in writing by the Environment Agency	02/05/2014
Other performance indicators	Form performance 1 or other form as agreed in writing by the Environment Agency	02/05/2014

Schedule 5 - Notification

These pages outline the information that the operator must provide.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the EP Regulations.

Part A

Permit Number	EPR/BB3001FT
Name of operator	Rathlin Energy UK Limited
Location of Facility	Crawberry Hill Well Site, Land South West of Crawberry Hill, Walkington Heads, Beverley HU17 8RU
Time and date of the detection	

(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution

To be notified within 24 hours of detection

Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

(b) Notification requirements for the breach of a limit

To be notified within 24 hours of detection unless otherwise specified below

Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified within 24 hours of detection	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

Part B - to be submitted as soon as practicable

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of the operator

Schedule 6 - Interpretation

“*accident*” means an accident that may result in pollution.

“*application*” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“*Annex I*” means Annex I to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“*Annex II*” means Annex II to Directive 2008/98/EC of the European Parliament and of the Council on waste.

“*approved waste management plan*” means a plan of the type described in Article 5(1) of Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC, approved as part of the grant or variation of an environmental permit and as revised from time to time.

“*authorised officer*” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

“*emissions to land*” includes emissions to groundwater.

“*EP Regulations*” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“*emissions of substances not controlled by emission limits*” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit..

“*extractive waste*” means waste resulting from the prospecting, extraction, treatment and storage of mineral resources and the working of quarries, excluding waste which does not directly result from these operations.

“*groundwater*” means all water, which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

“*Industrial Emissions Directive*” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- (a) in relation to emissions from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
- (b) in relation to emissions from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

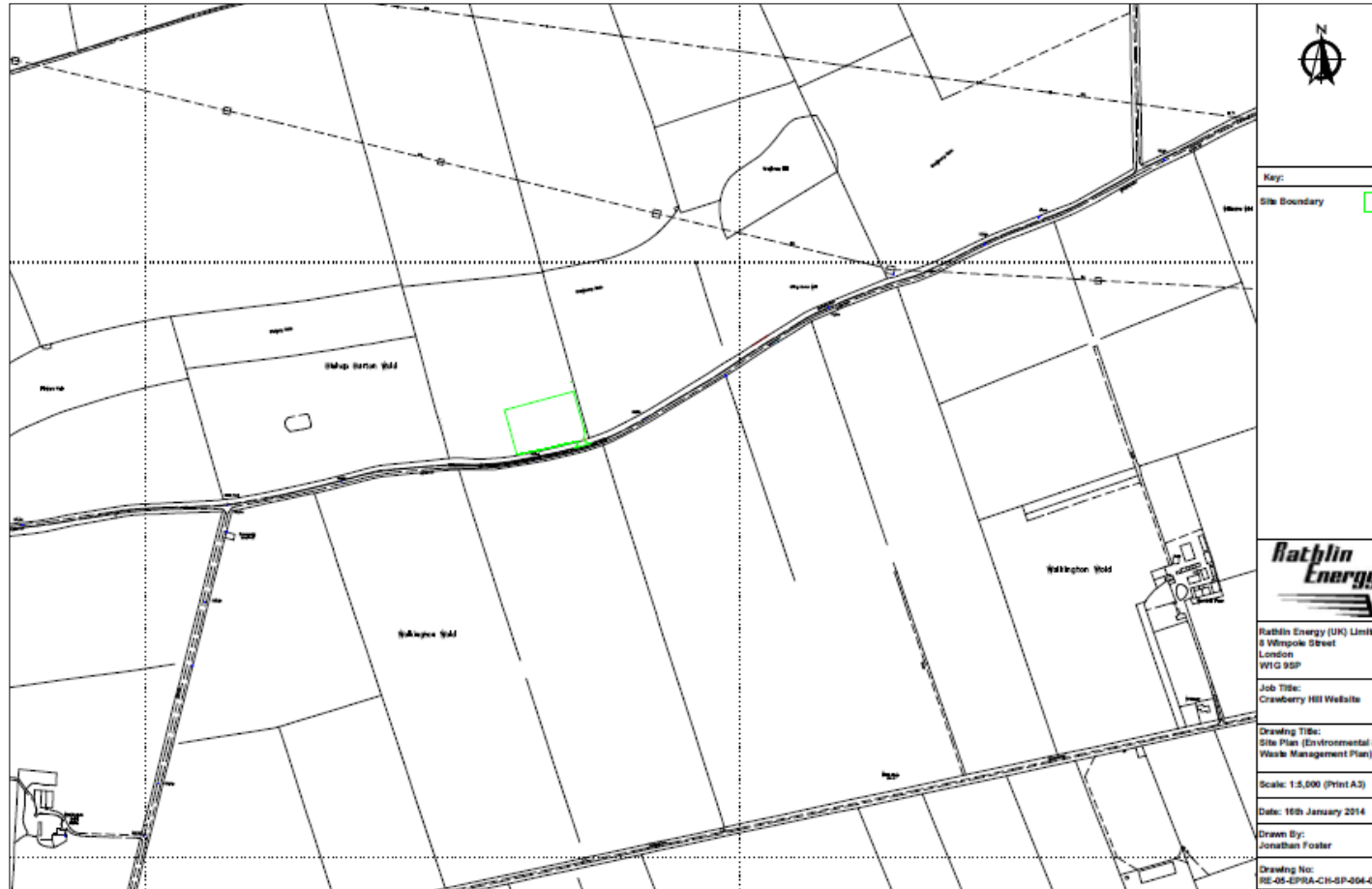
“*mining waste facility*” means a waste facility as defined in Article 3(15) of Directive 2006/21/EC of the European Parliament and of the Council of 15 March 2006 on the management of waste from extractive industries and amending Directive 2004/35/EC, where a mining waste operation is carried out.

“*prospecting*” means prospecting as defined by article 3(21) of the Mining Waste Directive as ‘the search for mineral deposits of economic value, including sampling, bulk sampling, drilling and trenching, but excluding any works required for the development of such deposits, and any activities directly associated with an extractive operation.

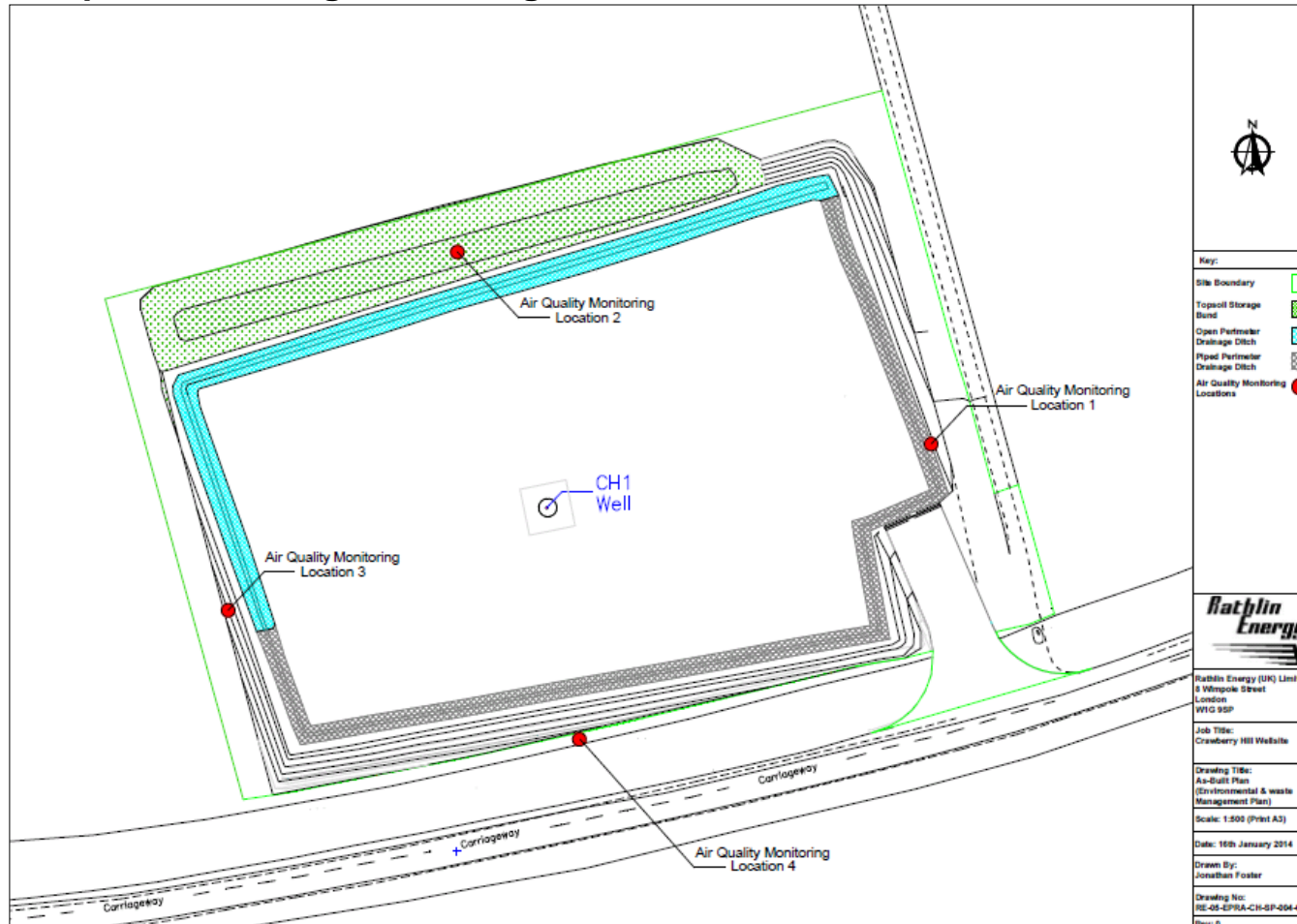
“year” means calendar year ending 31 December.

Schedule 7 - Site plan

Site plan 1



Site plan 2 showing monitoring locations



Scale 1:500 when printed on A3

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Permit Number : EPR/BB3000KC **Operator:** Rathlin Energy (UK) Limited

Facility : Crawberry Hill well site **Form Number:** Air1/02/05/2014

Reporting of emissions to air for the period from DD/MM/YYYY to DD/MM/YYYY

Emission Point	Substance / Parameter	Emission		Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]
		Limit Value	Reference Period				
	Oxides of nitrogen (NO and NO ₂ expressed as NO ₂)						
	Carbon monoxide						
	VOC as Total Organic Carbon (TOC)						
	Flare temperature						

- 1) The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
- 2) Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
- 3) For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.
- 4) The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
(Authorised to sign as representative of Operator)

Date.....

Permit Number : EPR/BB3000KC **Operator:** Rathlin Energy (UK) Limited

Facility : Crawberry Hill well site **Form Number:** Groundwater1/02/05/2014

Reporting of groundwater monitoring for the period from DD/MM/YYYY to DD/MM/YYYY

Monitoring Point (as agreed under pre-operational condition 2.4.1)	Substance / Parameter (as listed in table S3.2)	Trigger level (To be determined and agreed following submission and review of baseline groundwater quality data required under pre-operational condition 2.4.1.)	Reference Period	Result ^[1]	Test Method ^[2]	Sample Date and Times ^[3]	Uncertainty ^[4]

- 1) The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values.
- 2) Where an internationally recognised standard test method is used the reference number is given. Where another method that has been formally agreed with the Environment Agency is used, then the appropriate identifier is given. In other cases the principal technique is stated, for example gas chromatography.
- 3) For non-continuous measurements the date and time of the sample that produced the result is given. For continuous measurements the percentage of the process operating time covered by the result is given.

4) The uncertainty associated with the quoted result at the 95% confidence interval, unless otherwise stated.

Signed
(Authorised to sign as representative of Operator)

Date.....

