



**This form will report compliance with your permit as determined by an Environment Agency officer**

Site	Preston New Road Exploration Site EPR/AB3101MW		Permit Ref	UP3431VF		
Operator/ Permit holder	Cuadrilla Bowland Limited					
Date	31/10/2019		Time in	09:45	Out	14:00
What parts of the permit were assessed	Nitrogen Lift					
Assessment	Audit	EPR Activity:	Installation	X	Waste Op	Water Discharge
Recipient's name/position	PPE Manager					
Officer's name	EA Officers		Date issued	22/11/2019		

**Section 1 - Compliance Assessment Summary**

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our [Compliance Classification Scheme](#) (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your [local office](#).

**Permit Conditions and Compliance Summary**

**Condition(s) breached**

Permit Conditions and Compliance Summary			Condition(s) breached
<b>a) Permitted activities</b>	1. Specified by permit	A	
<b>b) Infrastructure</b>	1. Engineering for prevention & control of pollution	A	
	2. Closure & decommissioning	N	
	3. Site drainage engineering (clean & foul)	N	
	4. Containment of stored materials	N	
	5. Plant and equipment	A	
<b>c) General management</b>	1. Staff competency/ training	A	
	2. Management system & operating procedures	A	
	3. Materials acceptance	N	
	4. Storage handling, labelling, segregation	N	
<b>d) Incident management</b>	1. Site security	N	
	2. Accident, emergency & incident planning	N	
<b>e) Emissions</b>	1. Air	A	
	2. Land & Groundwater	N	
	3. Surface water	N	
	4. Sewer	N	
	5. Waste	N	
<b>f) Amenity</b>	1. Odour	A	
	2. Noise	N	
	3. Dust/fibres/particulates & litter	N	
	4. Pests, birds & scavengers	N	
	5. Deposits on road	N	
<b>g) Monitoring and records, maintenance and reporting</b>	1. Monitoring of emissions & environment	A	
	2. Records of activity, site diary, journal & events	C4	4.1.1
	3. Maintenance records	A	
	4. Reporting & notification	A	
<b>h) Resource efficiency</b>	1. Efficient use of raw materials	A	
	2. Energy	N	

**KEY: C1, C2, C3, C4 = CCS breach category ( \* suspended scores are marked with an asterisk), A = Assessed (no evidence of non-compliance), N = Not assessed, NA = Not Applicable, O = Ongoing non-compliance – not scored**

<b>Number of breaches recorded</b>	1	<b>Total compliance score</b> (see section 5 for scoring scheme)	0.1
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**If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response**

## Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with directly applicable legislation
- details of any multiple non-compliances
- information on the compliance score accrued inc. details of suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

This report should be clear, comprehensive, unambiguous and normally completed within 14 days of an assessment.

This audit focussed on the nitrogen lift process that we approved in the recent permit variation. There was one category 4 non-compliance of the permit due to not appropriately keeping CCTV records

Nitrogen lift is used to assist with the removal of fluids in the well to allow gas to flow to the surface. The operator started using nitrogen lift on 24 October as part of their well clean-up/testing operations and had removed a total of 33% of the fluid by the time of the audit. The operator will stop using the nitrogen lift as soon as the well is able to achieve self-sustaining flow. The permit variation provides a maximum of 30days for this process.

During the site inspection nitrogen was being pumped down the well and gas was flowing from the well head through the well test package and into the flare. Support fuel (propane) was added to this gas and the flare was burning cleanly with a heat haze at the top of the flare stack.

### **Total Mass of Methane Vented**

Well testing and use of nitrogen lift stopped on 11 November. The total mass of methane vented over the nitrogen lift period was 0.155 tonnes (155kg), which is considerably less than the worst case provided in the operator's air quality assessment.

### **Nitrogen Delivery**

During the inspection nitrogen was being pumped down the well at a minimum flowrate as calculated by the Petroleum Engineer. This was significantly lower than the rate used for air dispersion modelling. These calculations were based on the parameters in the N2 Lift Instruction, such as tubing size, pressure, gas density etc.

We discussed the considerations that will be made when deciding to stop the addition of nitrogen. This will happen as soon as the gas flow is self-sustaining and is being monitored by measuring parameters including the volume and salinity of flowback fluid removed, gas flowrates and pressures. Tests will be conducted at the earliest point once sufficient fluid has been removed to check if the gas flows naturally.

### **Well Test Package**

We inspected the well test package which consists of sand filters, a choke manifold, and separators to remove water and any potential condensate from the gas. The connection to the open top tanks had been removed as these cannot be used during this phase of operation. The setup of the equipment in the well test package was in line with the operator's Block Process Flow Diagram.

### **Flare Operation**

The N2 Lift Instruction (Doc ref: Instruction 012) requires the operator to start adding support fuel (propane) to the gas if it does not burn unsupported once the methane concentration reaches 20%. This is in order to increase the calorific value of the gas feed to the flare to minimise venting through the flare. This 20% concentration was determined through a cost benefit analysis. However the operator has gone beyond this requirement and opted to add support fuel from 13% methane. This has led to reduced venting and at the time of the audit a total of 37kg of methane had been vented.

We reviewed flare temperature records which showed that the temperature was around 800C during flaring.

**Elevated Methane at Site Boundary Notification**

We received notifications on 27 October that the methane concentration at the site boundary was elevated above the notification threshold in the Environmental Management and Monitoring Plan (7.1ppm). This threshold is set to give a very early indication whether the methane concentration may be above baseline levels at the site boundary. The notifications showed that methane concentrations were 12.4ppm between 07:12 and 07:23 and 7.93ppm between 12:19 and 12:30. A total mass of 37kg methane was released. The volatile organic compounds (VOC) monitor which indicates the concentration of benzene at the site boundary measured 0ppm during this time.

We reviewed operational data and the methane concentrations at the inlet to the flare were lower than the concentration at which the N2 Lift Instruction requires support fuel to be added (<20%). The pilot lights were lit, but the flare temperature records showed that the flare did not burn the gas.

Following these two notifications Cuadrilla made the decision to add support fuel and flare methane at a lower level than calculated by their cost benefit analysis.


**Instrumentation**

We inspected the continuous methane analyser which is located before the inlet to the flare stacks. The readings were consistent with measurements taken at other locations on the gas train.

**CCTV Footage Review**

CCTV directed at the flare stacks was installed on 24 October. We viewed the video footage collected that showed the flares to be burning cleanly on all occasions with no visible smoke or flames. However the CCTV system was setup to overwrite the footage every 7 days and therefore we did not view the footage from 24 October. Whilst we understand that there was no environmental impact, it is a requirement that monitoring records must be retained. We will discuss the retention period required with the operator. This constitutes a category 4 non-compliance associated with no impact on human health, quality of life or the environment.

Note that we received several incident reports from members of the public about flames and smoke from the flares before nitrogen lift started and undertook a separate inspection on 17 October to investigate these (please see CAR form UP3431VF/0344001).

 <b>Environment Agency</b>	<b>EPR Compliance Assessment Report</b>		Report ID: UP3431VF/0345002	
<b>This form will report compliance with your permit as determined by an Environment Agency officer</b>				
Site	Preston New Road Exploration Site EPR/AB3101MW	Permit	UP3431VF	
Operator/ Permit	Cuadrilla Bowland Limited	Date	31/10/2019	

**Section 3- Enforcement Response** **Only one of the boxes below should be ticked**

You must take immediate action to rectify any non-compliance and prevent repetition. Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.	X
In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.	
We will now consider what enforcement action is appropriate and notify you, referencing this form.	

#### Section 4- Action(s)

Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.

Criteria Ref.	CCS Category	Action Required / Advised	Due Date
See Section 1 above			
G2	C4	Operator to review procedures for retention of CCTV records and agree process with EA	N/A

## Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you.

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.

- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.

- A civil sanction Enforcement Undertaking (EU) offer may also be available to you as an alternative enforcement response for this/these offence(s).

**See our Enforcement and Civil Sanctions guidance for further information**

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

### Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance which could have a <b>major</b> environmental effect	60
C2	A non-compliance which could have a <b>significant</b> environmental effect	31
C3	A non-compliance which could have a <b>minor</b> environmental effect	4
C4	A non-compliance which has <b>no</b> potential environmental effect	0.1

**Operational Risk Appraisal (Opra)** - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

## Section 6 – General Information

### Data protection notice

The information on this form will be processed by the Environment Agency to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). The Environment Agency may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

The Environment Agency may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

### Disclosure of information

The Environment Agency will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within 28 days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

### Customer charter

#### What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line managers. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 03708 506 506 (Mon to Fri 08.00–18.00) and ask for the Customer Contact team or send an email to [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk). If you are still dissatisfied, you can make a complaint to the Ombudsman. For advice on how to complain to the [Parliamentary and Health Service Ombudsman](#) phone their helpline on 0345 015 4033.