

Preston New Road Exploration Works | Community Liaison Group

Date:

Monday, 12th November 2018

Venue:

Wrea Green Institute, Station Road, Wrea Green, Preston, PR4 2PH

Attending:

Councillor Paul Hayhurst, member for Fylde West division on Lancashire County Council
Councillor Julie Brickles, member for Warton and Westby ward on Fylde Borough Council
Councillor John Kirkham, member for Warton and Westby ward on Fylde Borough Council
Councillor Dawn Ansell, Weeton-with-Preese Parish Council
Councillor Miranda Cox, Kirkham Town Council
Mary Finn, Local Community Representative
Mary Ellison, Local Community Representative
Christopher Holliday, Local Community Representative
Jan Gregson, Local Community Representative
Liz Cheadle, Local Community Representative
Andrew Mullaney, Lancashire County Council
Tony Almond, Health & Safety Executive
Steve Molyneux, Environment Agency
Mark Quint, Oil & Gas Authority
Kelsey Ward, Oil & Gas Authority
Mark Lappin, Cuadrilla
Laura Hughes, Cuadrilla
Jackie Dobson, Lexington Communications

Apologies:

Councillor Stuart Harrison, Medlar-with-Wesham Town Council
David Kirkham, Westby-with-Plumpton Parish Council
Diane Dibley, Local Community Representative
Sergeant Anthony Alves, Lancashire Constabulary

Item		Action
1.	Welcome and apologies Councillor Hayhurst welcomed attendees and Jackie Dobson noted the apologies received.	
2.	Agree meeting report of 1st October 2018 Members approved the meeting report as an accurate record.	
3.	Review actions arising from previous meeting	

	<p><i>Action 1. Jackie Dobson to amend</i> – Jackie Dobson confirmed that the minutes of October’s meeting had been amended in relation to the discussion had regarding hydrogen sulphide (H₂S).</p> <p><i>Action 2. Mark Lappin to check storage capacity</i> – In response to Councillor Ansell’s question regarding how much gas storage capacity is proposed at Preston New Road, Mark Lappin confirmed that Cuadrilla does not store gas on the site.</p> <p><i>Action 3. Jonathan Haine to circulate briefing</i> – Andrew Mullaney explained that the Lancashire Resilience Forum (LRF) had been unable to finalise the briefing note for CLG members due to being preoccupied with the High Court legal challenge against Lancashire County Council. He advised that the document would be circulated at the next CLG meeting.</p> <p><i>Action 4. Jonathan Haine to liaise with Fylde Borough Council</i> – Andrew Mullaney confirmed that he had liaised with Fylde Borough Council regarding the living conditions of the protestors at Maple Farm and an update would be provided at the next CLG meeting.</p> <p><i>Action 5. Mark Lappin to confirm</i> – Mark Lappin advised that Cuadrilla has no plans for convoys outside of operation hours over the next few weeks. However, he explained to attendees that this is subject to change depending on operational circumstances.</p> <p><i>Action 6. Sergeant Alves to provide a response</i> – In the absence of Sergeant Alves, members were provided with a written statement in relation to video footage that captured an incident between a motorbike and a Police OSU van.</p> <p><i>Action 7. Mark Lappin to investigate</i> – Referring to the previous discussion regarding the height of the rig, Mark Lappin clarified that at the CLG meeting in December 2017, he had advised that the tallest piece of frac equipment would be 20m. However, he acknowledged that the height of the coiled tubing tower is 28m and apologised for any confusion caused.</p> <p><i>Action 8. Mark Lappin to ascertain</i> – Mark Lappin confirmed that Cuadrilla became an official partner of the Northern Powerhouse in October 2017.</p>	<p>Lancashire County Council to circulate briefing</p> <p>Fylde Borough Council to provide update</p>
<p>4.</p>	<p>Oil & Gas Authority presentation</p> <p>Mark Quint provided an overview of the Oil & Gas Authority (OGA), advising that it is responsible for regulating oil and gas operations in the UK. He noted that this covers both offshore UK Continental Shelf (UKCS) and onshore operations in England. Elaborating on this, he advised that this includes issuing licenses, consent for drilling oil and gas wells, consent to production of oil and</p>	

	<p>gas fields, controls on seismicity from hydraulic fracturing, as well as disseminating information into the public domain.</p> <p>Mark Quint explained to attendees that following the seismic events at Preese Hall in 2011, the Government assembled an expert panel, commissioned a report from the Royal Society and undertook public consultation. He advised that Sir Ed Davey, then Secretary of State, accepted the key recommendations from the expert panel, notably a Hydraulic Fracture Plan (HFP) and Traffic Light System (TLS).</p> <p>With regard to a HFP, Mark Quint informed CLG members that the document outlines how the operator will control and monitor the fracturing process. He noted that the HFP must be agreed by the OGA and the Environment Agency (EA) in consultation with the Health & Safety Executive (HSE).</p> <p>Mark Quint explained that the OGA is responsible for managing the risk of induced seismicity and must be satisfied that controls are in place to minimise disturbance to those living and working nearby, as well as that procedures are in place to reduce the risk of any damage.</p> <p>Referring to monitoring during operations, Mark Quint informed attendees that the operator is required to run a real-time TLS throughout operations, with data also independently recorded and published by the British Geological Survey (BGS). In addition, he explained that monitoring during operations may include additional recording to measure levels of ground motion close to nearby dwellings and other structures, as well as downhole micro-seismic monitoring during injection.</p> <p>Mark Quint explained that a decision tree must be followed whilst monitoring during operations and actions taken in response to the TLS. Elaborating on this, he showed attendees an infographic of the TLS used to monitor and regulate fracking-induced seismic activity. Mark Quint advised that the level of micro seismicity where operations must pause (a 'red' event) is set at a magnitude of 0.5 ML. He noted that this is far below what would be detected on the surface, noting that seismic events with a magnitude below 2.0 ML are usually not felt.</p> <p>Providing an overview of the TLS, Mark Quint informed members that a 'green' event is one with a magnitude below 0.0 ML and the operator can proceed as planned. He noted that during hydraulic fracturing, many micro-seismic events are generated as fractures are created. Reiterating earlier comments, he noted that these events cannot be felt and are detectable only by specialist equipment.</p>	
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	<p>Referring to ‘amber’ events (those greater than 0.0 ML, but less than 0.5 ML detected during pumping), Mark Quint explained that the operator must proceed with caution and once the stage is complete, the well pressure / flowback must be reduced. He noted that the operator may consider adjusting pumping rates or volumes, as well as alternative stages and locations.</p> <p>Mark Quint explained that if an event with a magnitude greater than 0.5 ML is detected, a ‘red’ event, the operator must immediately suspend injection, reduce pressure and monitor seismicity for any further events. He noted that monitoring must occur for a minimum of 18 hours.</p> <p>Providing further detail, Mark Quint advised that stopping pumping and then flowing back is required to reduce the likelihood of inducing larger trailing events, as well as allows sufficient time for the OGA and the operation to confirm if the event is in line with the HFP.</p> <p>Referring specifically to Cuadrilla’s operation at Preston New Road, Mark Quint showed attendees a graph demonstrating the seismic activity since hydraulic fracturing commenced. He noted that four ‘red’ events have occurred, including two trailing events, and advised that Cuadrilla had paused operations for the required 18 hours.</p> <p>Mark Quint concluded his presentation by advising that these are far below what would be detected on the surface, nor would they have been detected by the BGS’ usual monitoring equipment, demonstrating that the TLS appears to be working.</p>	
<p>5.</p>	<p>Question & Answer session</p> <p>Several questions were raised by attendees:</p> <ul style="list-style-type: none"> – Jan Gregson asked whether seismic monitoring had been undertaken prior to hydraulic fracturing commencing. Mark Quint confirmed that Cuadrilla undertook seismic monitoring, as agreed in the HFP, to ascertain a baseline for over a year before operations commenced. He noted that there are low levels of natural seismicity in Lancashire and referred to quarry blasting, planes and traffic. – Referring to the minimum 18 hours pause for monitoring in response to a ‘red’ event, Christopher Holliday asked why previous suggestions that this should be 48 hours following the seismic events at Preese Hall had not be implemented. Mark Quint explained that the experts assembled following the seismic events considered evidence from the activity at Preese Hall and around the world and concluded that a pause of 18 hours following an event detected with a magnitude greater than 0.5 ML was the correct 	

	<p>level. The 48 hours' period mentioned was for the case of a threshold higher than 0.5 ML.</p> <p>He went onto advise that global data shows that larger trailing events occur within 10 – 14 hours following hydraulic fracturing. A brief discussion followed regarding trailing events, with Mark Quint explaining how downhole micro-seismic monitoring allows greater geological understanding. He also noted that the seismic data provided by Cuadrilla in the HFP had been assessed by the OGA and British Geological Survey (BGS).</p> <ul style="list-style-type: none">– Councillor Brickles asked whether the TLS operates 24 hours a day, 7 days a week, including when hydraulic fracturing is not occurring. Mark Quint confirmed this.– Referring to the micro-seismic event measuring 0.66 ML detected on Sunday, 4th November, Councillor Brickles noted that there was not an event greater than this preceding it. <p>In response, Mark Quint explained that it is difficult to identify what single event causes a trailing event, but advised that trailing events greater than 0.5 ML require an 18 hour pause for monitoring. While this event happened after pumping had stopped, it was likely that this was the primary event.</p> <ul style="list-style-type: none">– Councillor Brickles asked about hydraulic fracturing operations since the seismic event measuring 0.66 ML. Mark Lappin confirmed this and advised that he would elaborate further during his site update [Agenda Item 7]. <p>Mary Finn asked at what magnitude seismic activity can be felt on the surface, stating that she had experienced the events at Presse Hall in 2011, noting it was like an airplane had hit the house. Mark Quint advised that seismic events with a magnitude below 2.0 ML are usually not felt at the surface. He went on to explain the Richter scale is a base-10 logarithmic scale, meaning that an increase of 1 on the scale is 10 times greater than the previous one.</p> <ul style="list-style-type: none">– Councillor Hayhurst expressed concern regarding the potential scale of fracking across Lancashire following comments made by Francis Egan, Chief Executive of Cuadrilla, regarding the Company's future aspirations. Addressing concerns raised regarding Preston New Road being the UK's first shale fracking site and a lack of experience regarding shale gas operations in the Country, Mark Quint advised that the Industry utilises the expertise and experience of other countries where shale gas exploration and extraction is undertaken.– Mary Finn stated that several countries, such as Canada, have continued to experience seismic events after hydraulic fracturing has occurred and	
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	<p>moratoriums have been put in place. Echoing these concerns, Councillor Cox asked whether there are cumulative impacts as a result of hydraulic fracturing and if the process can increase the size of faults.</p> <p>A discussion was had regarding geological faults, with Mark Lappin providing an overview of fault displacement, known as the throw, and explaining that hydraulic fracturing cannot cause a very small fault to become a large fault.</p> <p>Later in the meeting, Councillor Ansell asked whether Cuadrilla had known it had been heading towards a fault ahead of the seismic events at Preese Hall in 2011. Mark Lappin explained that Cuadrilla avoids large faults, only fracturing where faults cannot be detected, as these faults would be extremely small.</p> <p>Elaborating on this, Laura Hughes explained that since the events at Preese Hall, Cuadrilla has gathered 3D seismic data to ascertain where the faults are and to allow the faults to be viewed in higher resolution. As such, she advised that a greater level of information is available to assist the technical team compared to 2011.</p> <ul style="list-style-type: none">– Referring to comments made by Francis Egan that the regulatory system risks “<i>strangling</i>” the Industry, Councillor Cox asked whether Cuadrilla is lobbying the Government to get the limit of 0.5 ML in relation to the TLS increased. Mark Lappin advised attendees that Cuadrilla is not actively lobbying for the limit to be changed but is making the point known that the TLS, like many conditions, has set a low threshold of 0.5 ML and the operations are highly scrutinised operation. He advised that this had been established to reassure local people, but he questioned whether this had been achieved or were these alerts causing people to be less reassured. <p>To illustrate his point, Mark Lappin explained that the media reported on the hour, every hour the micro-seismic event classed as a ‘red’ event, while a far stronger event on Saturday, 15th September in Durham, went unreported. Whilst he acknowledged that Cuadrilla considers the limit to be low, he confirmed this is not currently being pursued.</p> <ul style="list-style-type: none">– Citing recent discussions regarding her home insurance renewal, Mary Finn stated that she had been advised by her existing provider that due to her proximity to the Preston New Road site, she would not have been able to obtain cover as a new customer. Mark Lappin questioned this and sought clarification as to why she would not have been provided cover.– Following a discussion regarding the requirement to monitor for a minimum 18 hours after a ‘red’ event, Councillor Brickles questioned whether Cuadrilla has adhere to this procedure. Mark Lappin advised that	
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	<p>operations have paused for 18 hours, confirming that OGA considers trailing events with a magnitude greater than 0.5 ML also require an 18 hour suspension of activity.</p> <p>Mark Quint informed attendees that Cuadrilla is also taking a precautionary approach to events classed as ‘amber’ on the TLS and adopting the same procedure as if the seismic event is a ‘red’.</p> <p>Elaborating on this, he explained that the BGS reports seismicity using one decimal place, whereas the TLS system uses two. Citing an example where a micro-seismic event was reported on the BGS’ website as 0.5 ML, he noted that under the TLS, this was confirmed as 0.48 ML.</p> <p>Against this background, he suggested this may have caused ‘amber’ events to be perceived as ‘red’ events. Mark Lappin advised that he would confirm whether any hydraulic fracturing has occurred within 18 hours of an ‘amber’ event. Mark Quint agreed to provide a summary of when ‘green’, ‘amber’ and ‘red’ events have occurred.</p> <p>Members reviewed the responses provided to questions raised ahead of the meeting. A handout was provided to attendees.</p> <p>During the review of responses, several additional questions were raised:</p> <ul style="list-style-type: none"> – Councillor Brickles questioned why Cuadrilla is elusive in the responses provided to questions asked by CLG members. She stated that answers should be provided promptly to comply with the planning consent and described Cuadrilla as rude for failing to respond immediately. <p>Referring to Condition 15 of the planning condition to establish a CLG, Andrew Mullaney advised that the Terms of Reference does not stipulate a requirement for Cuadrilla to respond to CLG member with a specific timeframe. Mark Lappin acknowledged the feedback received and stated that he would endeavour to address this moving forward.</p> <ul style="list-style-type: none"> – In light of Cuadrilla’s response that specific data on precise times of hydraulic fracturing operations is commercially sensitive, Christopher Holliday stated that the absence of this information leads local people to make assumptions regarding the current operation, such as whether fracking is occurring when pump engines are heard. Similar concerns were echoed by Councillor Brickles. <p>Christopher Holliday went onto suggest that reassurance would be provided to the local community if Cuadrilla disclosed when it is hydraulically fracturing.</p>	<p>Mark Lappin to confirm</p> <p>Mark Quint to provide summary</p>
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	<p>Several members questioned whether Cuadrilla representatives are prioritising the Company’s shareholders.</p> <p>Acknowledging the points made, Mark Lappin reiterated that Cuadrilla is unable to provide specific details due to commercial sensitivities, but emphasised that he would continue to share what information he is permitted to do so with CLG members to ensure transparency.</p> <ul style="list-style-type: none"> – Due to the volume of questions provided on the handout, Councillor Hayhurst requested the Question & Answer document is circulated to members in advance of the meeting at regular intervals. 	<p>Jackie Dobson to circulate Q&A document</p>
<p>6.</p>	<p>Lancashire Police update</p> <p>Sergeant Alves of Lancashire Police had given his apologies and provided a written statement.</p>	
<p>7.</p>	<p>Site update</p> <p>Mark Lappin provided an overview of operational activity, advising that Cuadrilla began hydraulic fracturing on Monday, 15th October. He advised that Cuadrilla had envisaged that the operation would begin at the toe and then move up the well, but explained that fracking had been undertaken along the length of the horizontal well in a different order to further understand seismicity and obtain data.</p> <p>He went on to confirm that the shale is producing natural gas earlier than expected and informed attendees that a small amount had been produced during flowback of fracturing fluid from individual stages. Mark Lappin advised that this is now being analysed and confirmed that Cuadrilla intends to commence hydraulic fracturing over the coming days.</p> <ul style="list-style-type: none"> – Councillor Cox asked what happens to the flowback water and Mark Lappin confirmed it is recycled. – Jan Gregson asked whether flaring has occurred. Mark Lappin confirmed that flaring occurred briefly to allow Cuadrilla to dispose of the early flow of gas during flowback. Several attendees referred to drone footage of the flaring. – Mary Finn asked whether subsidence could be caused by hydraulic fracturing. Mark Lappin sought to reassure attendees by advising that fracking does not lead to subsidence. 	

<p>8.</p>	<p>Lancashire County Council Update</p> <p>Providing an update from Lancashire County Council, Andrew Mullaney noted that two complaints had been received; one regarding noise and another relating to operational hours. He advised that both had been investigated and neither represented a breach. Andrew Mullaney informed attendees that several complaints had been received regarding the protestor camps, as well as regarding the seismic events.</p> <p>Referring to earlier comments made regarding the LRF having been preoccupied with the High Court legal challenge against Lancashire County Council, Councillor Cox questioned whether an emergency planning exercise should have been undertaken when it was initially raised by CLG members in order to avoid a court case.</p> <p>Echoing these concerns, Councillor Brickles also expressed concern regarding a lack of a site specific emergency plan for the site. Councillor Hayhurst reiterated concerns previously raised regarding the logistics relating to an evacuation procedure, particularly for elderly and disabled residents of Carri Bridge Residential Park. Further reference was made to the Grenfell Tower tragedy due to a lack of training regarding evacuation procedures. Andrew Mullaney pointed out that the judge refused the case on the basis that nothing further was required; that risk had been properly assessed and addressed.</p> <p>Reiterating previous comments made, Andrew Mullaney informed attendees that site specific emergency plans have been prepared by the emergency service. He noted that standard evacuation procedures have been prepared that can be deployed by the LRF, along with the emergency services, to deal with any event across the County that requires people to be evacuated.</p> <p>Referring to a previous joint operation between Lancashire County Council and Fylde Borough Council whereby several signs were removed from around the site, Jan Gregson noted that signage and banners have reappeared. Noting that these could become hazardous in strong winds, Jan Gregson asked whether Lancashire County Council could act against what she perceived to be an eyesore for existing residents and visitors driving past the site.</p> <p>Andrew Mullaney explained that Lancashire County Council must consider safety issues relating to any hazards that could reduce the visibility of drivers or obstacles that could lead to pedestrians being unable to access the footpath. Nonetheless, he advised that the perceived risk is considered low, so Lancashire County Council is not proposing to take a heavy-handed approach regarding the banners, signs and paraphernalia.</p>	
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	<p>In response, Councillor Cox informed attendees that protestors are disposing of litter in a responsible way, but felt that several of the signs and banners displayed artist merit.</p> <p>Noting that the anti-fracking based graffiti on the M55 had been removed, Councillor Kirkham stated that it had now appeared on the other side of the bridge. Andrew Mullaney noted that further graffiti now appears on the M61 near Chorley. He explained that the removal of graffiti is the responsibility of Highways England, but noted the substantial cost to do so.</p>	
<p>9.</p>	<p>Industry regulators update</p> <p>Steve Molyneux advised that the Environment Agency (EA) had undertaken eight inspections to site since Cuadrilla commenced hydraulic fracturing on Monday, 15th October, with several unannounced and alongside the OGA and HSE. He referred to the Joint Regulators Community Briefings that have been circulated to CLG members to keep local people informed about the work of the regulators at Preston New Road.</p> <p>He informed attendees that the EA is in discussions with Cuadrilla regarding the removal of waste following the demobilisation of the rig. Referring to the detailed ‘cradle to grave’ audit of Cuadrilla’s waste management process, he cited the well pad stone as potentially hazardous waste due to mechanical oils that could have been split.</p> <p>Steve Molyneux also referred to several relatively minor non-compliance issues which were primarily administrative errors, namely the wrong company name provided on paperwork and use of a non MCERTS accredited business.</p> <p>Reiterating the reporting process, Steve Molyneux advised that Cuadrilla is provided with 28 days to respond to the EA’s findings prior to publication under the Government’s regulator code. He noted that during this time, information is not released into the public domain.</p> <p>Referring to the presence of natural gas having been detected earlier than expected, Steve Molyneux noted that flaring had occurred onsite for the first time. Furthermore, he noted that monitoring had identified a methane emission. He noted that background monitoring detects 3 ppm and stated that 11 ppm had been identified. He stated that the EA is liaising with Cuadrilla to address this. To provide context to the methane levels, Mark Lappin informed attendees that a reading of 29 ppm had been recorded during baseline monitoring before operations began.</p> <p>Regarding the micro-seismic events, Steve Molyneux advised that the low level activity detected was within the range expected. Councillor Brickles questioned</p>	

	<p>the actual definition of a micro seismic event, noting that the OGA considered this as below 0.5 ML, whilst the BGS determines a micro seismic event to be a magnitude below 2.0 ML. Mark Lappin confirmed that the BGS' definition is widely used.</p> <p>Tony Almond informed attendees that the Health & Safety Executive (HSE) has undertaken several inspections to site since hydraulic fracturing commenced, including to inspect the equipment. He also noted that equipment used to release protectors who locked-on has been inspected. Tony Almond advised that all equipment has the necessary certificates and relevant risk management processes in place.</p> <p>Furthermore, Tony Almond informed attendees that inspectors had received abuse from protestors when leaving the site. He reiterated that, as well as being a regulator, the HSE is also an employer and has a duty of care regarding the health and safety of its staff. As such, he noted that the HSE will take necessary measures to ensure staff remain safe. Councillor Brickles condemned the abuse experienced by HSE inspectors.</p>	
10.	<p>Agreed date of next meeting</p> <p>It was agreed that the next meeting should take place at:</p> <p>7pm on Monday, 10th December at Wrea Green Institute, Station Road, Wrea Green, Preston, PR4 2PH.</p>	
11.	<p>Agreed date of January's meeting</p> <p>It was agreed that January's meeting should take place at:</p> <p>7pm on Monday, 7th January at Wrea Green Institute, Station Road, Wrea Green, Preston, PR4 2PH.</p> <p>In the absence of Councillor Hayhurst and in line with the Terms of Reference, it was agreed that Councillor Brickles, as ward member for Warton and Westby, will Chair the CLG meetings in December and January.</p>	
12.	<p>Any other business</p> <p>Mark Lappin requested that Natascha Engel, the new commissioner for shale gas, is invited to attend a forthcoming meeting as an observer. Members of the CLG agreed.</p> <p>Mark Lappin advised that Cuadrilla would welcome the opportunity to invite CLG members to a site visit. It was agreed that Jackie Dobson would circulate potential dates to ascertain the availability of members.</p>	<p>Mark Lappin to invite</p> <p>Jackie Dobson to circulate dates</p>

Lancashire Police Update

Apologies from Sergeant ALVES

Action 6

Councillor Ansell referred to recent video footage that captured a motorbike which had to swerve to avoid a collision with a vehicle leaving the site due to a Police OSU van parked on the opposite side of the road. Sergeant Pritchard confirmed Inspector Keith Ogle is aware of the incident. Councillor Ansell requested a response from Sergeant Alves at the next meeting.

In relation to this incident I think there has been confusion as to what Chief Inspector Ogle is aware of. Insp Pritchard provided this response thinking it was the red Lorry's which photographs had been provided of at the previous meeting. In relation to the Moped we are now aware of this but do not have any details of the driver's involved. The CCTV is not clear enough to identify this.

Lancashire Police Update

Apologies from Sergeant ALVES

Update from Professional Standards department – They are currently running 28 On-going complaints having received 4 new complaints this week.

Update on arrest figures – since the last meeting there have been 20 arrests in October and 5 so far in November for a variety of offences, including obstruction of the highway, Obstructing Police officers and causing a public nuisance.

This month we have seen an increase in direct action towards any vehicle entering or leaving the site. We still try to approach every day PLT led (Police Liaison Team) but find we have to deploy officer from the serials and physically move campaigners out of the carriageway, in order to allow vehicles on and off site. We have seen significant lock-on's this month including a tri-pod which took officer nearly 3 days to remove, and a campaigner who climbed on a lorry outside Maple Farm (04/10).

On the 15th October we saw two lock-on's simultaneously, one in the site entrance and another one near to the Westby road junction. Due to this one being in a dangerous position a full road closure was put in place. This was on the basis on safety and remained in place for approximately 6 hours until the campaigners were removed from the lock on device. During this period we were facilitating access as best we could. A contra flow then remained in place whilst the lock-on at the site entrance was dealt with.

On the 20th October there was a planned march from Maple farm to the site entrance. Approximately 1000 people attended and the event was in good spirits with no arrests. Due to the number of people the road was closed for a brief period whilst we facilitated the walk from Maple Farm to the site, but then a contra flow but in place and traffic allowed to flow. Following this incident and the incident on the 15th some concerns have been raised from residents of Carr Bridge regarding carer's not arriving, busses being diverted and parking issues.

The following week saw more action directed at the security staff and due to this police staffing was initially bolstered for the week with an extra serial of 7 officers. This was only for 1 week and since been stood down.

Staffing has then been increased slightly this week, including the following: Two additional officers have been put on night shifts and officers, including two Police Liaison officers will be working on Saturday and Sunday. This is following a steady increase in reports of disruptive behaviour towards security staff. Last weekend this included campaigners hitting private vehicles with signage causing damage to a vehicle and Fireworks being aimed/fired at the security staff one evening. Attempts to identify those involved remain ongoing.

Questions & Answers

Please find below responses to additional questions raised by residents following the Community Liaison Group meeting on Monday, 1st October 2018.

9th October 2018

I am making an enquiry on behalf of a resident who saw activity on the tower last night after 10pm. They reported what looked like a pipe being removed.

Are you able to provide some information for me to pass on, please?

They are aware that you are currently awaiting the outcome of the injunction against LCC before you can commence fracking and so were naturally curious when they spotted activity.

The activity you refer to relates to preparing the site for hydraulic fracturing. There were no Court restrictions against this preparation whilst we awaited the outcome of the injunction.

12th October 2018

I have had reports of vibration and noise coming from the Preston New Road Site in the early hours of Thursday 11th October. Please can you confirm what work was taking place.

No significant noise or vibration was picked up by our monitors in the early hours of Thursday 11th October. However, if you could provide more specific details we can investigate this further.

18th October 2018

I've recently been talking to residents at Carr Bridge who have no internet access and they have expressed concerns that they have no idea what's happening at the site. They only have the news on TV and it tends to be about protest with no feedback from the CLG. I've had an idea how we could solve this problem for them. Westby PC run a bus every Tuesday from Carr bridge and I go along most Tuesdays to help, I was wondering if you could bring a dozen or so copies of our minutes to the CLG and then once they are approved I could hand them out on the Tuesday? Residents would then have monthly updates.

We appreciate the suggestion and will be sure to bring along copies of the minutes for distribution to the next CLG.

19th October 2018

At what magnitude would seismic events appear on the ePortal and there is nothing apparent on there for yesterday's events.

If no data appears for any given day this is because no seismicity great than 0ML was recorded whilst pumping operations were taking place. Data for trailing events (events outside the time we are pumping) will not be shown if smaller than 0.5ML in line with the traffic light system.

23rd October 2018

I would like the following questions asked:

1) A message on the e-portal states that seismic events will not be reported on if they occur outside of the times Cuadrilla are fracking. Simple question - why not when clearly the micro-seismic events of last week were caused by the fracking operations. Traffic light system requires you to monitor seismic events before fracking - so unless Cuadrilla have done all the fracks they are going to do then all seismic events at the moment are relevant.

2) Cuadrilla spokesman said they had seen other micro-seismic events while they had been monitoring prior to fracking. Where is the data to support this statement as the BGS site doesn't appear to have registered them.

3) if Cuadrilla is only publishing data relevant to the times they are fracking, then they should make the times that they are fracking known - why not publish that on the e-portal.

4) If Cuadrilla are cherry-picking the seismic data that is displayed on the e-portal, then can we have clarification on which other measures on the e-portal have been cherry-picked.

We are displaying all seismicity for our operational area above 0ML during pumping, and all seismicity above 0.5ML if it occurs after pumping has finished (a trailing event). This is to reflect the levels of seismicity for which action is required under the Traffic Light System flowchart which forms part of our approved hydraulic fracturing plan. This approach to reporting on our ePortal does not constitute cherry picking.

The BGS website defines microseismicity as any event below 2.0ML. In the regional area, this year our seismic monitoring has picked up 0.8ML in Knutsford (24th February), 2.0ML in the Forest of Bowland (5th June), and 1.3ML off the coast of Blackpool (30th August). This data is displayed in the eportal when selecting the background regional seismicity tab. These three events were also reported by BGS on their website. You can find them by searching at <https://earthquakes.bgs.ac.uk/earthquakes/dataSearch.html> using date parameters.

Since 15th October, pumping operations have been conducted nearly every day except for Sundays, within the hours permitted under our consents. At this time, more specific data on precise times of pumping is commercially sensitive, however The Traffic Light System is being followed with daily engagement with all relevant regulators. All of our data on seismicity is reviewed by the BGS.

23rd October 2018

What the blue tower is for?

The blue tower you referred to is the coiled tubing tower. It feeds the pipe (coiled tubing) into the well to open and close frac sleeves where we wish to pump water. The coiled tubing is on the ground on a large blue spool. Mark Lappin would be happy to share pictures or discuss this at the next CLG meeting if that would be of interest.

29th October 2018

I am not sure when the next CLG is so thought I would drop you a line today with concerns.

Fracking: Residents are extremely concerned about the number and level of tremors (no surprises there then!). It is NOT reassuring for Cuadrilla and the Fracking Tsar Natascha Engel to keep saying that this "shows

the system is working" or that as some don't happen when fracking is not being done "they are not red events". This is just a test phase at the moment. If drilling proceeds after the test phase there could be up to 20 wells - what will happen then about any tremors. Logic dictates they will increase in numbers and intensity. What will happen then and do Cuadrilla know whether increases in activity will or will not happen. They must have experience of other fracking sites.

I was wondering if, to help the local community, Cuadrilla might consider a monthly update on progress by way of a letter drop - not many people here have access to the internet. Whatever happens residents need a lot more than what we feel as being "fobbed off".

The camp: The Saturday of the big protest march I saw someone on the site throwing liquid into the brook. I could not see what it was and was too far away to take a photo. Doesn't matter what it was they should NOT be emptying anything into the brook. In addition last Tuesday I saw someone burning goodness knows what just the other side of the brook 10 feet away from a house on CBP and next to an abandoned car. I contacted Sgt Alves who sent someone to deal with it, but what is going on? These people are supposed to be environmentalists. As far as I am concerned this just goes to prove they don't give a damn about the local community or area, they are only interested in disrupting the fracking. We and the environment they live in are just collateral damage.

I and my near neighbours would be grateful for an update on what is happening with this camp. I understand there is no planning application so why are they still there?

Additional Enquiry

I have actually logged on to contact you again over the latest news reports this lunchtime of a 1.1 tremor at 11.30 this morning. This compounds mine and others fears but the head of Cuadrilla is again saying

that there is nothing to worry about. He MUST understand that residents are very worried and need more than mere words from him for us to have some reassurance.

Regarding your concerns relating to earth tremors and the impact of an increased number of wells being hydraulically fractured at this site, the regulations in place, specifically the traffic light system, are designed to prevent micro-seismic events triggering larger tremors that could cause damage.

As part of the application to hydraulically fracture, all operators are required to submit a Hydraulic Fracture Plan (HFP) to the Oil and Gas Authority (OGA) which maps the geology of the ground surrounding our site. The OGA is continuously monitoring and ensuring that we're operating in accordance with the HFP. Following seismic events of 0.5 or greater, the OGA compares the location, magnitude and ground motion of these minor seismic events to Cuadrilla's HFP. To date, the OGA has been satisfied that these events have all been in line with the geological understanding set out in the HFP and that the risk of induced seismicity is being appropriately managed.

If the number of wells at our Preston New Road site were to be increased above the currently permitted four wells, this would be subject to a new HFP and the ongoing scrutiny from the OGA.

With regard to keeping local residents informed, we currently send postal updates to all nearby households at significant junctures and distribute a quarterly newsletter to all residents in the Fylde. Furthermore, the Community Liaison Group provides a forum for two-way dialogue between Cuadrilla and the local community every month. At this stage, we feel this is a high level of engagement with the community.

Cuadrilla has always respected the right to peaceful and lawful protest, however we continue to condemn unlawful, irresponsible and reckless behaviour that impacts law abiding local residents and businesses. The Police have sole authority in being able to take action concerning activist behaviour, including offences such as that which you observed recently. However, Cuadrilla is committed to working closely with Lancashire Police to reduce anti-social behaviour.

29th October

Could I request a full list of dates and times for all fracking operations since work commenced?

Since 15th October, pumping operations have been conducted on every day except for Saturday afternoons and Sundays, within the hours permitted under our consents.

5th November

I didn't ask for pumping operations, I asked for dates and times of actual fracks, could you include mini fracks in this information. I'm sure it's formatted somewhere, as other agencies will have had to be informed. Can you confirm why pumps ran from 9.45 to 12.03 last night, Sunday 4th ?

We are unable to disclose the exact times of hydraulic fracturing operations as this is commercially sensitive information. The noise witnessed is likely to have been caused by pump engines, as both can be run at once and this did not breach the noise levels stipulated in planning conditions.

29th October

I was hoping that you would be able to let CLG members have a schedule that lists fracking times and dates of all fracks that have occurred so far and those that are to come. I have received a number of concerned calls about the process and the related seismicity. People are not reassured by the traffic light system and are not at all reassured by comments from Cuadrilla downplaying the severity of the tremors. Whilst they may not be felt at the surface there are concerns about the effects below ground.

I have also received a message about pumps running last night out of operating hours. Can you clarify what activity was taking place between 11 pm and midnight on Sunday October 28th?

Since 15th October, pumping operations have been conducted on every day except for Saturday afternoons and Sundays in line with the hours permitted under our consents.

With regards to the activity you described on the evening of Sunday 28th October, during that time we were running coiled tubing into the first well as permitted under our working hours conditions.

29th October

I have to challenge this statement [Cuadrilla's statement regarding micro seismic activity] according to the oil and gas authority a micro seismic event is below 0.0 anything above that is seismic and not expected as part of the fracking process!

The British Geological Survey [determines](#) anything below 2.0ML as micro seismicity.

2nd November

I have a question in relation to the press release given out today. It was my understanding at the last CLG that the fracking process would start at the furthest away point on the horizontal, and that the process would be Perforate/frack/plug then move and repeat the process until the full horizontal had been fracked. Then after a settling period that was pivotal to the process, drill through the plugs to release the fluid and gas. So my question is, how have you got any gas?

You are correct, the broad plan outlined to the CLG was to begin at the toe and then move up the well. For clarity, we use remote-operated sleeve systems rather than the perforate/plug model you describe which provides greater flexibility to frack along the length of the horizontal well in a different order.

To answer your question, the shale is in fact producing natural gas earlier than typical shale gas formations and, therefore, has produced a small amount during the flowback of fracturing fluid from individual stages to date.

To ensure that we were fully prepared for this eventuality, equipment has been in place since before fracking began to ensure we could handle early gas production.

5th November

Questions:

- 1) when did you last frack prior to this event.**
- 2) if last frack was on Sunday how was this permitted?**
- 3) why were pumps heard running on Sunday at 2.45pm and 9.45pm?**
- 4) are you using acid in the well and if so why?**

We can confirm that no hydraulic fracturing took place on Sunday, 4th November, in-line with permitted working hours. The noise witnessed is likely to have been caused by pump engines as both can be run at once and this did not breach the noise levels stipulated in planning conditions.

Cuadrilla is not using acid in the well, however relatively small doses of dilute hydrochloric acid are permitted to clean-up the area around the well-bore sleeve. This is done as required and is fairly common practice.

5th November

Are you please able to clarify the fracking process for me. If pumps are running is this classed as part of the actual frack? I have heard pumps start, change volume and pitch and wondered what this signifies.

Additional Enquiry

I have had reports of pumps Late at night on Sunday evening. Reports have been received of pumps firing up around 10.20 pm. As operational hours do not permit fracking at these hours I would like you to clarify what occurred.

The pump engines can be run at any time and we do so for a number of different reasons. We always ensure that any noise generated by these pumps or any others site activity is within the permitted noise levels.

6th November

Please can you confirm that a Lubbers delivery arrived at 8.10 am on 6th November. I have received a report it was carrying a crate labelled with "BOP". This is I believe a Blow out Preventer. Is there a problem with the existing components? As you will understand, there is a lot of anxiety surrounding the operation on PNR , and so it would be helpful to have clarification about this delivery.

Our records show that a vehicle matching this description entered the Preston New Road site at that time, but it came simply to pick up equipment no longer required. To confirm, a Blow-Out Preventer was not delivered to site.