



**BALCOMBE PARISH COUNCIL COMMENTS
TO WEST SUSSEX COUNTY COUNCIL
ON THE PLANNING APPLICATION
BY ANGUS ENERGY WEALD BASIN NO 3 LTD
APPLICATION NO: WSCC/071/19**

Location: Lower Stumble Hydrocarbon Exploration Site, London Road, Balcombe, Haywards Heath, West Sussex, RH17 6JH

Proposal: Remove drilling fluids and carry out an extended well test. This proposal is a two-stage activity:

- 1) Pumping out previously used drilling fluids to ascertain any oil flow (up to 4 weeks)
- 2) Should oil be seen to flow, an extended well test (EWT) would be carried out over a period of three years.

NOVEMBER 11th 2019

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NOTES

This document was prepared in draft by Balcombe Parish Council's Energy Working Group. It has been adopted by the full Parish Council at an extra Parish Council meeting on November 11th, 2019.

The appendices to this document provide additional and detailed information in support of the Parish Council's specific grounds for objecting.

EXECUTIVE SUMMARY

Balcombe Parish Council object to this application on the following grounds listed below:

1. Timing and Process

- The time period for the extended well test is excessive at 3 years: Typically, the Oil and Gas Authority only allow extended flow testing for 90 days. If problems arise with impact on local residents, then 3 years is too long. It effectively allows Angus Energy to enter a production phase without having to apply for production application which would require more stringent conditions.
- **EIA:** An Environmental Impact Assessment should be made as the overall site is over 1 ha in size. WSCC stated in their decision to not require an EIA was the existence of an impermeable membrane on the site. However, at the Community Liaison Meeting (CLG) of 4th November 2019, Angus confirmed that there was no impermeable membrane on the site.
- **Unconventional geology:** At the CLG, Angus stated that it was due to the unconventional geology that a longer than normal period of testing was required. They cited Horse Hill as being similar. The EA have confirmed that they have in fact given 76 days for extended well testing for Horse Hill.

2. Financial position and potential impact on Balcombe and West Sussex

- Angus Energy is a risk- taking exploration company. Its financial position is precarious. There is a risk that a significant failure in any one of the company's assets could cause bankruptcy.
- This could lead to local communities having to find costs for the closure of the site, or if the failure occurred in Balcombe the clean up as well.
- The company should deposit funds in escrow for the shutdown of the site, and have sufficient insurance or a performance bond against the serious adverse impacts in Balcombe

3. Climate Emergency

- In April 2019 WSCC and the Government recognised the climate emergency. Extraction of new sources of crude Oil is not compatible with this recognition.
- In addition, the Lower Stumble site will rely on road tankering oil and produced water about 100 miles which will make it a carbon intensive method of production, as opposed to ship transport or pipelines. This is even less compatible with the recognition of the climate emergency by WSCC.
- Lower Stumble's oil well is not a strategic reserve and is not in the public interest.

4. Impact on the village

- **Traffic:** The calculation of the increase in the traffic figures is incorrect and takes no account of the disparity in size of HGVs. The traffic plan routes all traffic through the village to the north, regardless of whether or not the ultimate destination of waste or production materials is in fact to the south.
- **Air quality:** Not enough detail has been provided about the potentially toxic compounds in emissions and venting. The flare will produce toxic emissions. There should be an interim assessment, after three months, based on results from sorption tubes.
- **Noise:** Absolute reassurance is needed that noise abatement measures will be in place from the beginning of operations.
- **Drainage and pollution:** Accurate descriptions of drainage and protective measures should be given. Currently the documentation is inconsistent and confusing eg. there are three different conflicting descriptions of the bund. There is no longer an impermeable membrane across the whole site.
- **Ecology:** Ecological impacts need to be updated and enforced.
- **Disaster Recovery:** A disaster recovery plan should be in place.
- **Conditions:** All the above should be set out as conditions which require to be rigorously enforced. The traffic plan should be amended to direct traffic to the most direct route to its final destination.

OBJECTIONS

Time requested for extended flow test

Three years is an extraordinary length of time for an extended well test (EWT). The Environment Agency (EA) guidance is 'up to 90 days'. In the previous application, Cuadrilla was granted six months' work to be carried out during a two-year period.

Angus are applying for a test when they intend to produce

Lord Lucan, Managing Director of Angus Energy, said of Balcombe in an interview in October 2019: 'It is a test that more than pays for itself because you are able to produce most of the time.'

<https://drillordrop.com/2019/10/11/interview-angus-oil-man-backs-gas-for-the-future/>

The proposed infrastructure is of a standard that might be expected for a short flow test rather than production - for example the bund and drainage system are not of a standard suitable for production. Lord Lucan, managing director for Angus, confirmed at the CLG meeting on the 4th November 2019 that these are not up to the production standard at their Brockham site, nor of UKOG's Horse Hill site (where there is permission for production).

Angus argue in their application that they do not need to lay funds aside now for the restoration because they can set aside 15% of revenues from oil production from the well to cover restoration.

Production requires more stringent permitting, including an Environmental Impact Assessment and emissions monitoring.

The applicant states in the Planning Statement that if the extended well test is completed successfully, they will prepare and submit a new planning application for the production stage.

It is suggested that the well is unlikely to produce commercial quantities of oil for much longer than 3 years. The extended well test seems to be an attempt to classify operations as "temporary" and avoid planning restrictions that apply to permanent installations to protect the environment and local population. In particular, the applicant wishes to flare excess gases rather than use them to generate electricity.

West Sussex Minerals Plan (policy M7a) states that proposals for exploration and appraisal for oil and gas should not be permitted unless it has been demonstrated that "there are exceptional circumstances and that it is in the public interest." It is not in the public interest to carry out this extended well test.

Balcombe is opposed to the presence of an oil company in the village.

Residents' views are a material consideration and should be taken into account. In three polls, the village has been shown to oppose by a simple majority, the presence of the oil and gas industry in Balcombe. This was confirmed by a February 2014 Balcombe Parish Council poll, conducted by Electoral Reform Services and sent to every Balcombe resident on the full electoral roll. Notably, hundreds of objections have been lodged to this application from local residents, underlining the strength of feeling.

Angus Energy's financial condition

Based on the latest available filings, Balcombe Parish Council believes that Angus Energy and its subsidiaries do not have sufficient equity in their own right to manage any unforeseen liabilities and to protect the local community should either their parent or ultimate parent company decide not to support them going forward. This would include potential costs associated with an environmental clean-up and any site restoration costs.

Financial statements filed at Companies House show that Angus Energy Weald Basin No 3 (AEWB No3) has reported operating losses and net liabilities for four out of the last five years. The financial statements for AEWB No 3 show that the business is not profitable and not currently generating cash. The company is reliant on funding from other group entities and continued support from the ultimate parent company.

The company was reliant on raising funding from shareholders in 2018 and 2017. In 2018 and 2017, proceeds from two share issues were £5.1m and £5.6m. A further £3m was raised in 2018 from an issue of convertible loan notes. These proceeds were used to purchase exploration assets and oil production assets. Angus Energy PLC meets its day-to-day working capital requirements and medium-term funding through shareholder injection.

Over the last year, the share price for Angus Energy PLC has dropped from 14.4 pence to 0.875 pence (less than one penny per share). The share price on 12th November 2019 is .90 pence and the company have a market capitalisation of £6m.

On October 25th 2019, Angus Energy PLC made a statement to the stock market in respect of their liabilities regarding decommissioning wells and restoring sites. The cost of restoration of the Balcombe site in its current state (before any of the work specified in the current planning application) was estimated at £400,000. They proposed that 15% of all future revenue from the Balcombe should be transferred to a dedicated bank account over the life of the asset. However, they also state that if no oil is produced, they will shut down the well and restore it.

At the Community Liaison Group meeting on the 4th November 2019, Angus Energy stated that they were closing down the Brockham well because it was not a viable proposition and would instead be relying on production from Balcombe. We do not have any confidence in the company's financial position.

Balcombe Parish Council requests

- **That £400,000 should be placed in an escrow account immediately to cover the restoration of the Balcombe site, *whether or not* further work is undertaken at the site.**
 - **That, given the limited financial resources of Angus Energy PLC and its subsidiaries, they should also be required to take out appropriate insurance to cover any damage caused by the operation for a minimum period of 50 years beyond the life of the well. We ask that the level of indemnity be set to cover all eventualities.**
 - **That WSCC should consider whether Angus Energy is in a sufficiently sound position to undertake work of this nature.**
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- BPC believes that AEWB No. 3 and AEWB No.2 hold insufficient financial resources to protect the local community should its ultimate parent company decide not to support it going forward;
 - BPC believes that Angus Energy PLC holds insufficient financial resources to protect the local community should any environmental clean up and restoration activities be required;
 - BPC requires appropriate guarantees/indemnities or performance bonds are put in place by Angus Energy PLC to ensure there are sufficient resources available to return the site to a satisfactory state.

See "APPENDIX A: The applicant's financial condition" for a more detailed analysis.

Environmental Impact Assessment (EIA)

An Environmental Impact Assessment is required on all sites exceeding one hectare. Members of the community, including a Parish Councillor, have measured the site in the past, and on this basis Balcombe Parish Council considers the site to be greater than one hectare when the access road is taken into account.

The Parish Council notes that the applicant has submitted an Ecological Preliminary Appraisal, Habitat Regulations Assessment and Bat Activity Report. Nonetheless, without a full EIA, it is not possible to determine the full extent of any impact on the environment.

Furthermore, the RSK reports highlight that steps need to be taken to ensure no contaminated water reaches the streams running into Lower Stumble Wood and Lower Beanham Wood. The WSCC screening report states that the site's impermeable membrane protects groundwater from contamination. However, Angus Energy confirmed at the recent CLG meeting that the site did not have such an impermeable membrane.

Balcombe Parish Council objects to the fact that this application does not include a full Environmental Impact Assessment (EIA).

WSCC suggested that an EIA was not required on the grounds that 'in this case, taking into account the temporary period over which the operations would take place, the small scale of physical development, and the controls in place', the proposed development does not have the potential to generate significant environmental effects within the meaning of the EIA regulations. Two to three years does not seem to Balcombe Parish Council to be a temporary period in the sense that the seven-day flow-testing carried out in September 2018 was a temporary period. It is an extremely lengthy period, through which there will be intermittent increases in HGV traffic through the village, the running of a flare (day and night), increased noise pollution, and disruption to village life and wildlife.

Balcombe Parish Council requests:

- **That, if this planning application were to be accepted, the length of this extended flow test period and size of the site means that an EIA should be required.**

Traffic

Inaccurate Baseline Calculations

RSK, the Angus Energy consultant, argue in this application that: 'these vehicle movements are the same as previously consented, it is considered that the existing site access could accommodate the proposed development without any further improvements. It is also expected that the level of traffic generated by the proposed development would be likely to have a negligible impact on the local highway network.'

Balcombe Parish Council disagrees with this statement. The additional heavy traffic through our village has been underestimated and based on incorrect data.

The projected percentage increases in traffic used in this application are based on a traffic survey done in 2012 on the northern part of London Road, north of the mini roundabout where Haywards Heath Road (B2036) and London Road merge. Northbound, this part of London Road carries the traffic joining from both roads,

while in normal times, traffic arriving from the north forks left and right at the roundabout. The school and many houses lie to the south of this roundabout, on a normally quieter stretch of the London Road, which then continues down towards the oil site.

In addition, the methodology used to calculate HGV traffic figures conflates small lorries, vans and enormous six-axle HGVs. This is misleading.

Because the traffic movements used in the previous application were inaccurate (and Angus want to base this application on them), these traffic figures should be recalculated and resubmitted to the relevant statutory consultees.

WSSC Highways provides a table (see Appendix C) showing calculated percentage increases for different stages of the work. Apparently, the mobilisation week will generate a maximum of 20 two-way HGV movements, and the table says this equates to a 21% increase in HGV traffic. But each HGV movement is two-way, so actually this will mean 40 journeys through the village, and an increase of 42%, not 21%. Likewise, the other phases of the operation have understated the percentage HGV traffic increases by 100%. The actual percentage HGV traffic increases will be 42%, 48%, 42%, 48% and 4.1% (the latter for the shut-in period). These are much more significant increases than suggested by WSSC.

Forty one-way journeys through the village significantly exceed the WSSC Transport Assessment Guidance limit of 20 one-way movements as the baseline for production of a Transport Assessment.

The WSSC Highways response to the current application says that, from 2018 data collected on this section of the B2036, there are an average of 96 HGV movements per day, over a five-day period. It also sets out the number of expected two-way HGV movements for the current application, based on the traffic predictions from Angus Energy for the September 2018 flow-testing.

Previous Experience and Balcombe School

When Angus attempted to flow test in Balcombe in September 2018, 30 community members organised a Traffic Watch Group logging traffic movements and HGV types. Site traffic exceeded the levels predicted. The Traffic Watch Group estimated the increase in traffic at 15 per cent (as opposed to the predicted 8 percent), with a 30 per cent increase on the heaviest days.

They now want to bring the same materials and equipment back onto the site.

The increase in traffic (and the nature of the HGVs used) has a big impact on the school, and on traffic on the B2036.

Many of the vehicles entering the site were six- or seven-axle HGVs, which could span the whole length of the school. The average count for *that* size of HGV coming down that road past the school is not even one per day across a seven-day average. Yet on some days there were as many as 32 movements of these vehicles. The daily average for six-axle vehicles across the few days counted was 15! Worst still, the vehicles had a tendency to idle in front of the school because of the bottle-neck caused by car parking further down the road.

It is of great concern that these huge HGVs will again passing within three metres of the school playground. Vehicle types are not specified, and so it is not possible to assess how many 'abnormal' or large loads make up the site HGV traffic stated.

Balcombe Parish Council notes that this application has mandated restrictions on travelling past Balcombe Primary School at drop-off and pick-up times (para 8.5.3 of the Environmental Report, last bullet point). This makes no allowance for children arriving for breakfast club or for after-school clubs.

Size of vehicles

It is also worth noting that some of the vehicles are extremely high. Last time the vehicle used to convey the coiled tube had to stop so that the driver could get out and climb on the roof to check it would not catch on low-slung electricity cables that weave their way down the residential parked-up section of this road.

In this application special measures for abnormal loads (such as the crane and work over rig) are not discussed in the application. Nor is there any mention of how many loads of hazardous waste will be generated. There is no mention of the possible contents of HGVs.

Southern Route

The application states that 'HGV traffic will be limited to accessing the site using B2036 London Road from the M23 motorway.' This is the road that runs past the village school and houses on both sides of the road until housing thins out south of the railway station.

There is, however, another route to the site from the A23, via Whitemans Green at the north end of Cuckfield but it includes a mini-roundabout that is too tight for vehicles of the largest size vehicles. The route via Whitemans Green is possible for normal-sized HGVs and tankers as this route has no weight restrictions and is used by many such vehicles at present. It also passes housing, but is much less densely populated than through Balcombe. There is no school on this route.

There is no reason why HGVs should not be shared between this southern route and the northern one, with smaller ones approaching from the south. Particularly for HGVs coming from or going to the south coast as this route is shorter.

Balcombe Parish Council requests:

- That the traffic calculations be redone, and the traffic table be redone, and the Transport Assessment re-examined, with the correct figures for percentage traffic increases, and that the consultees be informed so that they have the chance to review their responses. And that the consultation period should be lengthened to enable everyone to comment on the correct traffic calculations.
- That proper signage and a banksman be provided to avoid the problems of September 2018, when HGVs sometimes went through the village six times because they missed the site.
- That both Angus contractors and Sussex Police stick to this condition rigorously. There were occasions in 2013 when they did not.
- That a lower speed limit of 30mph be set on the road for the duration of any works, to enable vehicles to turn into the site safely. The normal speed limit on the stretch of B2036 that passes the site is 60mph, and vehicles travelling at this speed could be extremely dangerous, particularly in wet weather.
- That HGV movements should not be allowed seven days per week as Appendix 8.2 seems to apply. The planning application mentions movements only Monday to Saturday.

Traffic management plan and signage

Insufficient detail on Traffic Management is given in this application with much left for a post application Traffic Management Plan.

Balcombe Parish Council requests:

- That a Traffic Management Plan and/ or Traffic/Transport assessment be provided owing to the presence of large and abnormal loads, the transport of hazardous materials and the proximity of the school to the route.
- That Balcombe Parish Council should be able to access Angus's lorries logs.
- That details of temporary traffic signage should be provided to avoid collisions with turning vehicles at the site entrance.
- That a speed restriction of 20 mph should be imposed on site HGV traffic travelling through the village.
- That there should be restrictions on times at which site HGVs may travel through the village, in addition to school times.

- **That the restriction on access from the south should be removed for normal site HGV traffic, and access to and from the south of the village should be imposed for:**
 - **all traffic heading to or coming from the south,**
 - **all site HGV traffic at set-down and pick-up times from the school**
 - **all hazardous loads (including hydrochloric acid and material controlled by the Mining Waste Permit and the Radioactive Substances Regulations) during school hours, to avoid the possibility of an incident while children are in residence.**

See Appendix C for the chart of traffic movements given in the WSCC Highways response to the consultation.

Climate change

Our countryside is essential for our health and well-being. Without it, we cannot address the climate emergency. Ending fossil fuel extraction is vital as it is incompatible with the UK's climate change commitments. The negative climate change impacts from this fossil fuel extraction project must be considered.

The combustion of five tonnes of methane per day and emissions from generators over a three-year period would create approximately 10 to 20 thousand tonnes of CO₂. This is equivalent to the emissions from several thousand households over the same period. To mitigate such CO₂ emissions 100,000 trees would have to be planted.

At times, Angus Energy would vent methane and other gases to the atmosphere if this application is passed. Methane is more than 80 per cent more powerful a greenhouse gas when considered in the 20-year time scale within which the climate crisis needs to be addressed. Many studies have shown fugitive methane from oil and gas sites to be a significant cause of global warming.

Air quality

Official 'Best Available Technique' for disposing of the gas associated with the oil (associated gas) is recovering gas to be cleaned and burnt to make electricity. Angus Energy acknowledged this in the Gas Management Plan submitted to the Environment Agency (CORP-HSE-GMP-001, Rev 1.0, Nov 2017). Yet Angus Energy do not propose to recover the gas.

It would appear that the RSK air dispersal modelling document has not been given approval by the Environment Agency. The Environment Agency have not put the RSK document out for public consultation. Does this make the application invalid?

Balcombe Parish Council has reviewed the Air Dispersion Study with the help of members of the community who work or have worked in the sector.

Air pollution is a serious concern for residents of Balcombe. The site lies down a dip, and the top of the flare is planned to be below the height of the village. The lie of the land means that the prevailing wind would carry emissions from the flare into the heart of the village. Some residents live under half a mile from the site. Sulphur dioxide may accumulate at ground level on the B2036 road. In 2017, the flare emissions produced a repugnant and noxious odour on the B2036 road. The nearest 'receptor' is the B2036 road, and this should be considered in the dispersion analysis.

Further information is needed. Angus Energy have presented an air dispersion study of carbon monoxide (CO), oxides of nitrogen (NOx) and particulate matter from the flare. Other important toxic emissions from the flare have not been considered.

The flare is 'off the shelf', and has been used for well tests in other locations around the UK, crudely modified to limit the gas flow to 5,000 m³/day. If the flare does not operate efficiently, incomplete combustion of the gas can lead to the production of high levels of toxic emissions. This is much more likely when the combustion is done in equipment that is not specified for the correct gas composition and flowrate, such as the proposed flare.

Technical specifications of the flare are not given. There is no picture, nor are there adequate specifications for the flare. The model should be stated. The temperature of the exit gases and flare efficiency must be confirmed before an assessment can be made. Higher temperature flares produce more oxides of nitrogen than cooler flares. If the flare does not operate efficiently, high levels of toxic emissions can be produced.

We have reason to believe that Angus Energy will use, as last time, the PWWT shrouded flare, whose efficiency is about 65%. (Flare Technical Document, Igas Energy, 2016 Environmental Permit Application EPR/BB3708GN, Ellesmere Port). When the flare efficiency drops to such unacceptable levels as 65%, polyaromatic hydrocarbons and particulates are generated in large quantities and the flare emission parameters are not reliably known. Such an inefficient flare will generate large quantities of smoke and particulates. It is therefore crucial to monitor the flare efficiency during operation. Yet RSK say there is no need to mitigate emissions. This is not true. Constant monitoring of the efficiency of the flare is vital. If flare efficiency falls below 95%, the flare will start to emit serious amounts of toxins such as volatile organic compounds and dioxins, which will be transported on the prevailing wind towards nearby houses and the village.

It is a condition of the EA Permit (EPR/AB3307XD) that ‘the operator shall analyse the flare feed gas. The analysis shall include specification and concentration of organic substances, carbon monoxide, sulphur containing compounds, halogen containing compounds and moisture’ and ‘the operator shall by calculation determine the emissions of the substances identified in table S3.1, based on the most recent feed gas composition analysis, feed gas flow rate and combustion efficiency of the flare.’

The chemical composition of the gas entering the flare, obtained from chemical analysis in 2017, should be available and should be published. In particular, the sulphur-containing compounds (H₂S, CoS, thiols and mercaptans) in the returned oil and gas should be identified and their concentrations reported. The results of any emissions monitoring undertaken in 2017 should also be made public. The gas flow rate and its composition should be available following the 2018 well test. Angus Energy note in Section 7 of their Planning Statement (Community Engagement) that they ‘agreed to share monitoring reports with the community as operations progressed.’ This has not happened.

The conclusions of the Air Quality Assessment are flawed. The applicant, in the Air Quality Assessment, has concluded that the impact of the operations on pollutant concentrations is negligible.

According to the Air Quality Assessment Technical Report, “the highest PC for the 99.79th percentile of the hourly mean NO₂ concentrations at the receptor locations, was predicted to be 36.21µg/m³ at R2”. Again according to the report, “The PC at R2 is 18% of the relevant AQS objective which would be classed as a ‘moderate adverse’ magnitude of change using the EPUK-IAQM criteria”.

The report, however, dismisses this assessment as being conservative because “the results assume the plant (flare and two generators) are operational for an entire year as a worst-case scenarios, when in reality the flare will only operate when the well is flowing and only one generator is expected to be operational at any one time”.

This argument is not sound as there is nothing stopping the applicant from flowing the well continuously throughout the 3 years. Further, the contribution of the flare (0.059 g/s) is very much less than the contribution of the generators (1.864 g/s). So, even if only one generator was running and the hourly mean NO₂ concentration was halved at R2, it would still be around 9% of the relevant AQS objective which would be classed as a ‘slight adverse’ magnitude of change using the EPUK-IAQM criteria. Not negligible then.

Therefore, there are absolutely no grounds for downgrading the impact on 1 hour mean NO₂ concentrations by two levels from ‘moderate adverse’ to ‘of negligible significance’.

Rough estimates put the polyaromatic hydrocarbon concentrations in the vicinity of homes located within about 400 metres from the flare (at Kemps House and Holts House) at around 6 ng/m³. This is 24 times the National Air Quality Objective for polyaromatic hydrocarbons (0.25 ng/m³) and so air dispersion calculations of this are necessary.

Angus Energy has not considered expected dioxin levels in the flare gas. Dioxins are amongst the most toxic chemicals known. They are formed when incinerating chlorine-containing organic substances. Dioxins are known human carcinogens and endocrine disruptors. As considerable amounts of hydrochloric acid have been pumped into the well, it is possible that the 'waste' gas will contain chlorinated hydrocarbons. The dioxin levels of the flare gas should be monitored, and contingency plans should be put in place should dioxins be detected in the flare gas.

Equipment should also be installed to remove hydrogen sulphide (H₂S) from gases vented or extracted from tanks.

Angus Energy conclude in the Air Quality Assessment that the impact of the operations on pollutant concentrations is negligible. We disagree. And if emissions are not monitored, mitigation in an emergency situation is not possible. A strategy needs to be in place for continuous monitoring of all toxic emissions from the flare, at Kemps Farm and Holts House. These houses are about 400 metres from the flare, down the prevailing wind. The method of monitoring should not be based on canisters or sorption tubes but on methods that can record spikes in emissions levels and reflect fluctuations in concentrations of emissions.

If it is found that any emissions levels breach safe limits, a strategy must be in place to remedy this situation immediately.

See “APPENDIX B: Air quality assessment technical report, further details” for a more detailed analysis or air quality issues.

Noise

RSK (Angus Energy's noise consultant) has prepared a Noise Management Report dated September 2019. On page 16, RSK state that ‘If regular exceedances of the project noise criteria are indicated in the results of any noise monitoring equipment at Kemps Farm, long term noise mitigation measures to protect this receptor will be investigated. Long term noise mitigation is likely to be in the form of a noise barrier.’ At the CLG meeting on November 4th 2019, managing director Lord Lucan agreed to install acoustic barriers from the start.

Included within the application (appendix 4.2) is the previous Spectrum Acoustic Consultant's noise assessment that states: 'Depending on the outcome of the testing, there may be a requirement for burning of produced gas, commonly referred to as flaring. Noise produced by flaring is variable, being dependent on gas flow rates. Should higher gas flows prevail, noise emission can be controlled by enclosing the flare, throttling back the flow during the sensitive night-time period, or a combination of both. As the flare noise is unpredictable, but is controllable at source, the potential contribution from this source has not been included in the prediction.'

Research suggests that the flare noise at source would be high (the flare will be operating for seven days a week, 24 hours a day), and as it is positioned 13.7m above ground level, will carry on the prevailing winds. Noise may create an unacceptable impact on the surrounding environment and homes and businesses in Balcombe. The predicted noise level within the application does not include the noise level that would be generated from the flare.

Balcombe Parish Council requests:

- **That sound barriers be installed before work starts, and that this should be a condition that is rigorously enforced.**
- **That the application is not considered until an accurately predicted noise level assessment is included, which assumes the flare is run at 100% capacity.**

Drainage and water pollution

Poor Documentation

Angus's documents are difficult to follow. There are three different and conflicting references to surface drainage in the application: in the Planning Statement, and the new document from RSK, which contains an appendix from August 2018 on discharge of previous condition 8 to the previous consent.

This appendix references the 2013 applications and the 2017 application and states that 'a new drainage system has been developed for the site' but it is unclear if this new drainage system is since 2017 or 2013.

In all cases there is a rather complex description of the arrangements for surface drainage of the site. None of the drawings clearly depicts the arrangement. However, all descriptions refer to two bunded areas. An oil interceptor is mentioned but it is not clear what it catches nor why it is in the description. When queried at the CLG, Angus stated that this had been removed but the documentation has not been updated.

There are discrepancies in all three references as in the table below.

Date	Document	Bunded dimension
25/09/2019	RSK doc - 890323-R1(0)-FRA (page 1)	28 x 18m, 0.73Ha overall site
	(page 8)	1 in 100 yr plus 30%
10/8/2018	Appendix D – RSK doc P661913 (discharge of Condition 8 to WSCC/040/17/BA granted sept 2017 and Refers to WSCC/063/13/BA)	62.5 x 40m at 300mm high, 750m ³ attenuation. Storage attenuation 475m ³ / 466m ³ required. Stones 90 x 55m
Sept 2019	Planning Statement (Heatons, no doc ref): Clause 8.5, page 16	CIRIA 176: 110% largest (88m ³) or 25% all tanks (52m ³) or 1 in 100 yr. 30 x 20 m x 0.45m high, effective vol 2400m ³ .

Inner Bund

There is an inner pad bunded area around the well head on which the main equipment sits, with storage of runoff and tankering away of fluids collected, lined and bounded by wooden sleepers with ACO “French drains” channelling runoff towards a buried tank or to the cellar. The bunded area is described in each document to various calculated sizes.

Outer Bund

The site itself is then stoned with an earth bund around the perimeter and another oil interceptor, which is closed during flow testing. Angus said at the CLG that they don't exactly know where this interceptor is so it might be hard to close the valve! One reference says that there is a membrane under the stoned area, one seems to indicate non(infiltration), one says a membrane will be installed if the EA require it. Again, a conflict of descriptions between the various sections of the application.

Need for an impermeable membrane across the whole site

The current application specifies the bund suitable for a short duration such as the previous short duration flow test. Now that Angus Energy has applied for a three-year extended well test, a more robust bund is needed, with an impermeable membrane across the whole site.

Balcombe Parish Council requests:

- **Accurate descriptions of drainage and protective measures including clarification of the bund should be provided by the applicant.**
- **A more robust bund should be provided than for a short duration.**
- **The time for permitted testing be reduced to the absolute minimum in recognition of the inadequate drainage and protection.**
- **Confirmation that no work will be undertaken until the current membrane is replaced by an impermeable membrane to at least the current sizing. This in view of Angus Energy comments at the CLG.**

Ecology

RSK (Angus Energy's consultant) has prepared a Preliminary Ecological Appraisal which concludes that the only protected species which may be affected by the works are reptiles, nesting birds and foraging and commuting bats. However, the report states that further actions and mitigations for these species is provided. It is important that these actions and mitigation become conditions of the planned activity.

The report states there will be no direct effects on nearby designated and non-designated sites, but indirect effects (such as run-off, light spill and effects to air quality) need to be considered and previous mitigation plans updated. The report specifically highlights the need to remove the possibility of light spill from the perimeter which can affect commuting bats which are known to use the habitat around the site. Furthermore, bat surveys should continue in the spring, summer and autumn, and that the lighting plan should be updated and agreed with the local authority.

The report highlights nearby streams and concludes that steps should be taken to ensure no contaminated water reaches these water bodies.

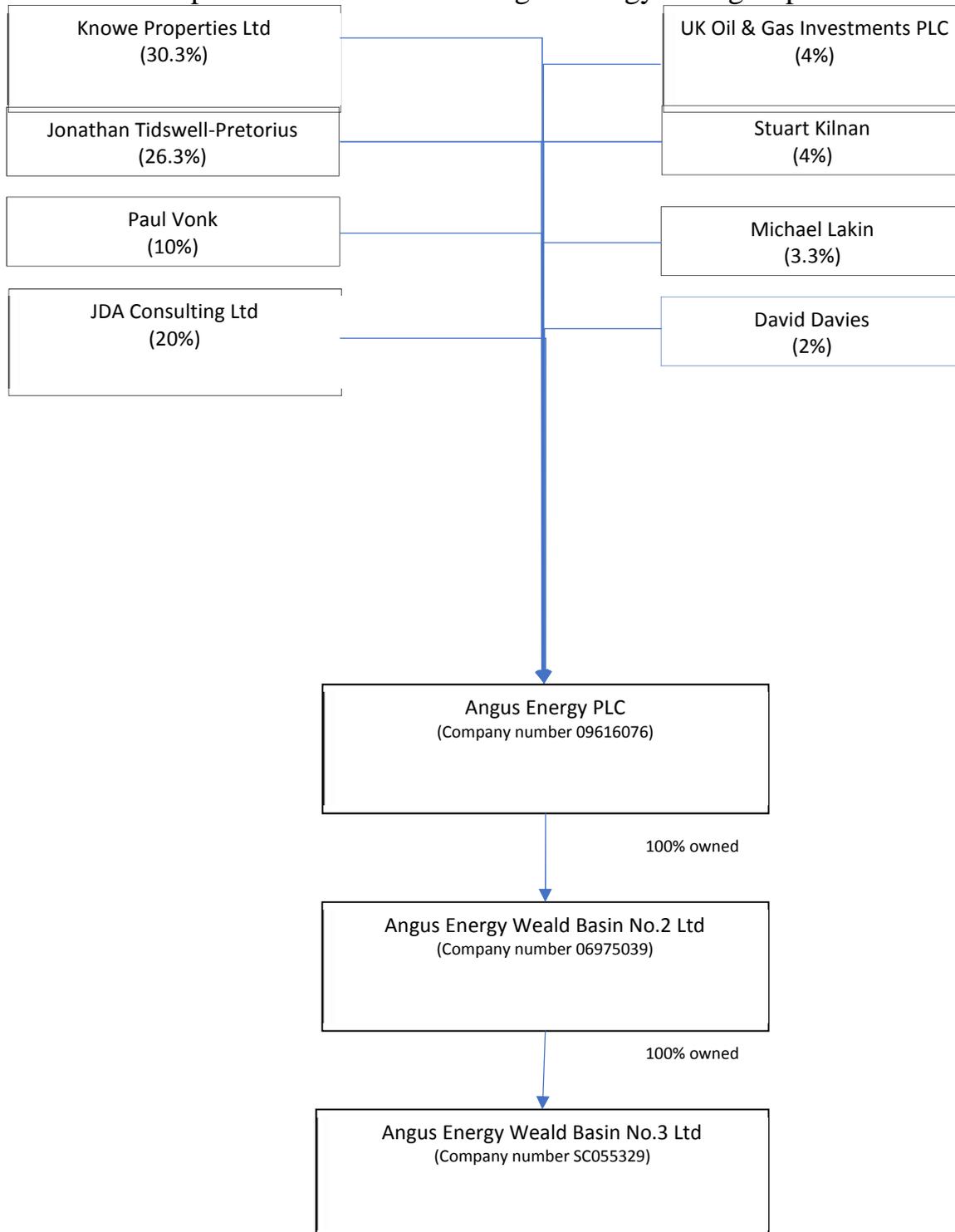
Balcombe Parish Council requests

- **Confirmation that the lighting plan will prevent light spill.**
- **Confirmation that steps taken to prevent contamination of groundwater are in place to ensure protection for nearby streams, particularly if the site is not equipped with an impermeable membrane.**
- **Conditions that regular bat surveys be completed throughout the active season, with updates to the lighting plan if required.**

APPENDICES

APPENDIX A: The applicant's financial condition

Below is a simplified structure of the Angus Energy PLC group :



Source: Angus Energy Annual return (dated 29 June 2016)

In assessing the financial capability of Angus Energy Weald Basin No3 Ltd (AEWB No3), Balcombe Parish Council has considered the financial viability and financial capacity of the business and its immediate and ultimate parents, Angus Energy Weald Basin No.2 Ltd and Angus Energy PLC.

Financial viability refers to the historic, current and future solvency of the three entities and the question of whether the companies are expected to remain solvent for the foreseeable future. Financial capacity refers the ability of the three entities to meet all known and anticipated future commitments in respect of licensed and other activities.

As can be seen from the financial statements filed at Companies House and the results summarised in the table below, AEWB No3 has reported operating losses for each of the last five years and net liabilities for four out of the last five years. In addition, AEWB No3's current ratio, an indication of the company's ability to meet its obligations in the short term, has been below one for each of the last four years.

Angus Energy Weald Basin No3 Limited					
£000	30-Sept-18	30-Sept-17	30-Sept-16	30-Sept-15	30-Sept-14
Operating loss	(927.6)	(1,142.6)	(958.9)	(1,070.4)	(354.2)
Accumulated loss	(6,454.9)	(5,527.3)	(4,384.7)	(3,435.6)	(2,351.2)
Net assets set against liabilities	(3,525.9)	(2,598.3)	(1,669.6)	(720.6)	363.8
Current ratio	0.05	0.11	0.32	0.71	1.95

The financial statements for AEWB No3 highlight that the business is not profitable or cash generative. The company is reliant on funding from other group entities, which is a significant and increasing element of the company's current liabilities. While the financial statements for each of the last five years have been prepared on a going-concern basis, the validity of this is dependent upon the continued support from its ultimate parent company, Angus Energy PLC.

AEWB No3's parent company, Angus Energy Weald Basin No2 Ltd (AEWB No2), also reported operating losses for three of the last five years. The company is an intermediate holding company and is neither revenue-generating nor cash-generating.

Angus Energy Weald Basin No2 Limited					
£000	30-Sept-18	30-Sept-17	30-Sept-16	30-Sept-15	30-Sept-14
Operating loss	-	-	(2,268.8)	(5.0)	(4.5)
Accumulated profit	164.5	164.5	164.5	2,433.2	2,433.9
Net assets set against liabilities	164.6	164.6	164.6	2,433.3	2,434.0

Based on the latest available filings, this means that neither of these companies has sufficient equity in its own right to manage any unforeseen liabilities. This would include potential costs associated with an environmental clean-up and any site restoration costs.

The uncertain revenue stream and ongoing exploration expenses means that both companies are dependent for their working capital and medium-term funding on their ultimate parent company, Angus Energy PLC.

Financial statements for Angus Energy PLC for the last three years also highlight that the ultimate parent company is loss-making and not cash-generative. The consolidated cash flow forecast for the company highlights that the net cash outflow from operations was £1m in 2018 and £2m in 2017.

The company was reliant on raising funding from shareholders in 2018 and 2017. In 2018 and 2017, proceeds from the issuance of shares was £5.1m and £5.6m respectively. A further £3m was raised in 2018 from the issuance of convertible loan notes. These proceeds were used to purchase exploration and oil production assets. Angus Energy PLC meets its day-to-day working capital requirements and medium-term funding requests through shareholder injection.

Angus Energy PLC			
£000	30-Sept-18	30-Sept-17	30-Sept-16
Operating loss	(2,406)	(2,721)	(1,938)
Accumulated loss	(4,597)	(1,882)	(4,384.7)
Net assets set against liabilities	10,108	4,152	152
Current ratio	1.13	6.1	1.11

Standard disclosures included within the financial statements of AEWB No3 and AEWB No2 highlight that these companies are reliant on Angus Energy PLC for support. The directors of Angus Energy PLC, having reviewed the Group's working capital requirements, believe they have sufficient cash and headroom within loan facilities for planned expenditure for the next 12 months.

APPENDIX B: Air quality assessment technical report, further details

According to the Air Quality Assessment Technical Report, ‘the highest PC for the 99.79th percentile of the hourly mean NO₂ concentrations at the receptor locations was predicted to be 36.21µg/m³ at R2.’ Again, according to the report, ‘The PC at R2 is 18% of the relevant AQS objective which would be classed as a “moderate adverse” magnitude of change using the EPUK-IAQM criteria.’

The report, however, dismisses this assessment as conservative, because ‘the results assume the plant (flare and two generators) are operational for an entire year as a worst-case scenarios, when in reality the flare will only operate when the well is flowing and only one generator is expected to be operational at any one time.’

This argument is not sound, nothing prevents Angus Energy from flowing the well continuously throughout the three years. The absence of the second generator is unlikely to make much difference to the hourly mean, as the hourly and annual mean for the generator should be similar because it is running continuously.

There are therefore absolutely no grounds for downgrading the impact on one-hour mean NO₂ concentrations by two levels from ‘moderate adverse’ to ‘of negligible significance’.

Further information is needed from Angus Energy on other toxic emissions not considered by the applicant and which may breach National Air Quality Objectives:

(i) Sulphur dioxide (SO₂)

Angus Energy have excluded SO₂ from the air quality assessment on the understanding that no H₂S is present in the gas being burned. No gas analysis has been produced, however. In 2018, a repugnant and noxious odour was detected at the nearest ‘receptor’, the B2036 road. An H₂S level of 1.5% was measured at the well alongside this one in the 1980s. The applicant has declared a sulphur content of 50 mg/Nm³ in the gas at their nearby Brockham site, producing a mean value of roughly 100 mg/Nm³ of SO₂ in the flare emissions, with locally much higher values.

At room temperature, sulphur dioxide is a non-flammable, colourless gas with a very strong, pungent odour and is heavier than air. Inhalation is the major route of exposure to sulphur dioxide. Most exposures are due to air pollution, and this has both short-term and chronic health consequences for people with lung disease. Inhaled sulphur dioxide readily reacts with the moisture of mucous membranes to form sulphurous acid (H₂SO₃), which is a severe irritant. People with asthma can experience increased airway resistance with sulphur dioxide concentrations of less than 125 micrograms/m³ when exercising.

The flare is at a level below Balcombe village and sulphur dioxide may accumulate at ground level in the vicinity of homes.

(ii) Polyaromatic hydrocarbons

Polyaromatic hydrocarbons are by-products arising from incomplete combustion of organic matter. They are frequently released into our environment. They are produced in flares. Many polyaromatic hydrocarbons, for which there is no known safe threshold concentration or exposure time, are strong carcinogens and have been linked to increased incidences of various types of cancer in humans.

Rough estimates put the polyaromatic hydrocarbon concentrations in the vicinity of homes located within about 400 metres from the flare (at Kemps House and Holts House) at around 6 ng/m³. This is 24 times the National Air Quality Objective for polyaromatic hydrocarbons (0.25 ng/m³) and so air dispersion calculations of this are necessary.

Dioxins

Angus Energy has not considered expected dioxin levels in the flare gas. Dioxins are amongst the most toxic chemicals known. They are formed when incinerating chlorine-containing organic substances. Dioxins are known human carcinogens and endocrine disruptors. As the operator is pumping considerable amounts of dilute HCl into the well, it is possible that the 'waste' gas will contain chlorinated hydrocarbons.

The dioxin levels of the flare gas should be monitored and contingency plans should be put in place should dioxins be detected in the flare gas.

Volatile organic and inorganic chemicals and synergy of emissions from the flare

Residents near to the flare will be exposed to benzene, ethyl benzene, xylene, toluene, pyrene, benzanthracene, anthracene, NO_x, sulphur dioxide, carbon monoxide, radon, soot, and many other combustion emissions. Neither WSCC nor the Environment Agency have any idea of the risk of simultaneous exposure to such a cocktail of chemicals.

Government emissions standards are typically based on the exposure of a grown man encountering relatively high concentrations of a chemical over a brief time period, for example during occupational exposure. They do not address low-level chronic exposure to many chemicals simultaneously - synergy. Laboratory investigations to determine safety limits typically measure exposure to one chemical at a time, while real-life conditions entail simultaneous exposure to numerous volatile chemicals,

whose affect cannot be predicted. Hence, the synergy of the components of flaring emissions needs to be considered.

Many of the compounds listed above are by-products arising from incomplete combustion of gases. They are much more likely to manifest themselves following combustion in inappropriate equipment such as the proposed flare.

Monitoring and mitigation of emissions

The potential time for flaring to take place is three years. This is completely different from the 2017 application.

The Environment Agency permit EPR/AB3307XD requires monitoring of emissions. WSCC ruled in 2017 that emissions monitoring was not required due to the temporary nature of the 2017 flow test. The three-year flow test of the current application can hardly be considered as 'temporary'.

Air emissions from tank venting

The oil storage tanks are open vented. Fugitive emissions from the tanks could include volatile organic compounds such as benzene, a carcinogen. They could include H₂S if present in the gas. Fugitive emissions from the tanks are particularly important due to the site location relative to Balcombe village.

The Operator must report to the Environment Agency 'point source emissions to air, specifically the oil storage vessel vent line, in accordance with the Balcombe wellsite environmental permit (EPR/AB3307XD)' (Gas Management Plan, CORP-HSE-GMP-001). These emissions must not be omitted from the Air Quality Assessment.

Further, regular monitoring of the tanks should be undertaken and contingency plans should be put in place in case fugitive emissions from the tanks exceed anticipated levels, or H₂S proves to be present.

Monitoring and mitigation of emissions

The potential time for flaring to take place is three years. This is completely different from the 2017 application.

The Environment Agency permit EPR/AB3307XD requires monitoring of emissions. WSCC ruled in 2017 that emissions monitoring was not required due to the temporary nature of the 2017 flow test. This situation is very different in the current application. These conditions do not apply to the current application with a 3 year flow test.

If emissions are not monitored, mitigation in an emergency situation is not possible.

The flare is 'off the shelf', used for well tests in other locations around the UK, crudely modified to limit the gas flow to 5000 m³/day. If the flare does not operate efficiently, incomplete combustion of the gas can lead to the production of high levels of toxic emissions. This is much more likely when the combustion is done in equipment that is not specified for the correct gas composition and flowrate, such as the proposed flare.

Constant monitoring of the performance of the flare is therefore vital, as toxic by-products of incomplete combustion will be transported on the prevailing wind towards nearby houses and the village.

A strategy needs to be in place for continuous monitoring of all toxic emissions from the flare at Kemps House and Holts House. These residences are about 400 metres from the flare in the direction of the prevailing wind.

The method of monitoring should not be based on canisters or sorption tubes but on methods which can record spikes in emissions levels and reflect fluctuations in concentrations of emissions.

If it is found that any emissions levels breach safe limits, a strategy must be in place to immediately remedy this situation.

APPENDIX C: HGV Traffic frequency & percentage variation from normal

The following table replicates the information that which has been provided for previous applications on the site.

Activity	Timescale	Total two way movements	Maximum Per Day (two way movements)	% increase in HGV flows
Mobilisation / equipment set up	1 week	65	20	21
Pumping (removal of drilling fluid)	1 week	97	23	24
Mobilisation / equipment set up	1 week	65	20	21
Flow Test	52 to 156 weeks	When Flowing: Approximately 97 two-way movements. This equates to an average of 6 two-way vehicle movements per day. When Shut-in: Approximately 8 two-way movements. This equates to an average of 2 two-way vehicle movements per day.	23 4	24 Average 5 4

Source: WSCC Highways Consultation Response