

Email 1

From: Sylvia May - Don't Drill The Wight [<mailto:sylvia@frackfreeisleofwight.org>]
Sent: 18 June 2021 12:37
To: southernwaterplanning <SouthernWaterPlanning@southernwater.co.uk>
Subject: Application for drilling permit by UKOG for Arreton IOW

To whom it may concern.

Apologies for my salutation but I have been given no name for contact.

I am a resident on the Isle of Wight and am writing to you regarding the planning application by UK Oil and Gas Ltd, to drill for oil on the Isle of Wight. The Planning application 20/00513/FUL is currently with our planning department after two full public consultations.

Currently there is a further Environmental Consultation launched by the Environment Agency seeking comments regarding UKOG's Permit to drill on the Arreton site. This closes on July 9th.

The proposed drill site is close to many of our sites of water abstraction so I trust you will be contacting the Environment Agency with your concerns over the possible risk of pollution to our major aquifer and surface water sources, however minimally estimated by UKOG as potentially **low risk** - and the need to conserve and protect our drinking water reserves.

I am presenting three issues to share with you, to which I would appreciate your response.

Two of these relate to the poorly designed well site and drainage plan which, potentially, will result in ground water contamination.

The third relates to the need to reduce our water consumption to prevent future drought in water resources particularly in the Hampshire region.

Point 1. Design. Having read your consultee comments for the local public consultation #2860251 submitted on 27th July 2020, I am concerned that there is no mention of the poor construction of the well pad regarding the possible overflow of pollutants from the containment area into the drainage ditches in the surrounding countryside.

The drilling site will be situated on a slanting field. The active area is designed to slope **outwards to a containment drainage system** which is not clearly defined on the drawings. In the event of a catastrophic discharge of stored pollutants used in the Well production, the only containment barrier is a kerb 160mm in height.

Any incidents where toxic materials were accidentally deposited on the well pad in large quantities - from storage tank failure, drilling activity or surface pollutants during an unexpected deluge of rainfall (which is becoming more frequent) – the contaminated fluids could breach the kerbs and run off to release contaminants into the surrounding countryside.

In UKOG's current documentation **Waste Management Plan – page 32 for the Environment Agency** permit they state *“Incorporated into the design of the well site is a HDPE impermeable membrane. The impermeable membrane prevents surface fluids (mainly rainwater) from penetrating the underlying subsoils. Surface fluids migrate along the surface of the impermeable membrane to a perimeter drainage system . In addition, general spill containment and clean up equipment shall be provided onsite. **In the very unlikely event of an environmental incident occurring beyond the capabilities of the equipment or personnel onsite then a specialist contractor will be called to assist UKOG in dealing with the incident”***

By that time it will be too late! Accidents of this nature due to poor construction design are further discussed in my second point

Point 2. Design You have confirmed in your consultation comment that **the site will be directly above one of our Source Protection Zones - a main aquifer.**

Yet you appear to have little real concern regarding UKOG's claims that possibility of pollution is low. There should be **no** risk to human health, which has been understated by the applicant as low risk.

Whilst the proposed operations do not include a discharge of wellpad fluids into surface water drainage ditches, there is obviously a risk of pollutants escaping from the site due to the poorly designed containment system. Additionally there is potential for pollution from the access track and consequently a permit to discharge surface run-off water from the whole site must be applied for. **UKOG is not applying for a permit for groundwater activities.** However there is a plan for a drainage system to remove excess rainwater runoff from the surrounding land exacerbated by the removal of over two hectares of natural drainage by constructing the wellpad. It is purportedly designed to only remove surface rainwater from outside of the Active Area down to a SuDs system of drainage and **then released to migrate into the strata which is identified in your 2860251 comment.**

However if there was an accidental event from the Active area, permitting contaminated fluids to breach the drainage pits, this would then enter the excess runoff drainage system and potentially contaminate surface water supplies.

The Waste Management plan quotes "Schedule 21 of EPR2016 relates to water discharge activities, including the discharge or entry to inland freshwaters, coastal waters or relevant territorial waters of any trade effluent. The EA has exclusions concerning discharges "caused by an accident or exceptional natural cause that could not have been foreseen, avoided or lessened" .. but states that exemption does not apply "where standard pollution prevention and good practice would have prevented the input. For example it is unlikely to apply if an accident was caused by poorly maintained or designed equipment which can obviously have been foreseen."

The cocktail of chemicals listed for this application is immense. These along with produced water, brine, wellbore and drilling waste chemicals including NORM and spent hydrochloric acid, even in diluted form, are a major threat to the limited Island water resources and human health. All the fluids and chemicals produced for the activity need to be delivered to and collected from within containment system via road tanker.

The long curving entry slip road, to be constructed to the site from the main road, rises up to the wellpad on an incline. The planned drainage system will be incorporated into the design to remove surface rainwater outside of the well pad area. The access road will not be covered with any protective surface other than compacted aggregate. Neither will the drainage system be bunded in any way to prevent deluge from the track into the surrounding fields.

Therefore any contaminating fluids released from vehicle accident, collision or tanker leakage on the track, from any of the 6,000+ HGVs predicted to travel to or from the site, would enter the surface drainage system and be discharged to migrate into the strata.

Point 3. Water Consumption/Extraction . Southern Water has recently created a series of public reference guides regarding concerns about falling supplies of fresh water and has issued its new incentives to protect water sources across the South of England. This includes asking the public to reduce household consumption by 100 litres per day and a company pledge to reduce losses of up to 15% of our supply through leakages across the system.

To create a well for exploration and appraisal takes - on average - 1 million litres of fresh water per well.

UKOG plans to drill 2 wells initially in Arretton and possible 2 more in Godshill . If then continuing to full production there could be as many as 7 wells per site over 20 years.

UKOG will be presumably be applying for extraction of water from some source controlled by your group, to transport this to the island since we do not have enough indigenous supply.

Can you please inform me from whence this water will be extracted? How does this fit into your long term strategy to counter future drought across Hampshire?

Should we not be protecting and reducing unnecessary risk to, and extraction of, our most valuable resource from the oil and gas industry in particular?

I hope you will take these concerns to heart I and reiterate my request, that you contact the Environment Agency to express any concerns you may have on the environmental impacts of the UKOG application and particularly the long term impacts to your valuable water supplies.

Thank you for reading this lengthy email and I look forward to your response.

With kind regards

Email 2. Sent 24/06/2021

In addition to my previous email please can you also send this email to the relevant departments as a matter of urgency as it contains further important information.

I am presuming that the Applicant's Hydrogeology Report - will have already been analysed for Southern Water by a suitably qualified professional.

I have been advised that the planning officer has informed UKOG of **Geophysical evidence provided by Emeritus Professor of Geophysics, University of Glasgow, Dr. David K Smythe (Comment number 2861212). Attached.** He awaits a response from UKOG but I have no evidence that there has been one. **Therefore I wish to highlight an apparent lack of response by the Applicant to Dr. David K Smythe's findings.**

- **Dr. David K Smythe's report concludes that this development will potentially pollute our aquifer reservoir of potable water, due to the Applicant's apparent lack of up-to-date data and understanding of geophysical matters related to the island's geological complexity, and UKOG's outline plans for drilling their wells.**

His report recommends **11 points for refusal - related to the developer's Geology and Hydrogeology Document - Appendix 5, Submitted on 31st March 2020: Project number: 60555556**

- **The Applicant's Envireau Water Ref: P19-295 UKOG Arreton 3 2019 \ RPT HRA & FRA UKOG Arreton3 2019.docx Page 33 of 49 identifies.. potential pollutant linkages with the following receptors:**
 - The groundwater system within the Lower Greensand Group Principal Aquifer, which contains useful groundwater with a resource value.
 - Licensed groundwater and surface water abstractions targeting the in the Blackwater area.
 - Registered private water supplies (PWS), potential unrecorded private water supplies and deregulated abstractions targeting the Lower Greensand Group in the vicinity of the Site.
 - The River Eastern Yar and public water supply at Knighton via the transfer of groundwater as part of the Medina- Yar Augmentation scheme.
 - Productive horizons within the Wealden Group (Secondary Aquifers), which contain poor quality groundwater with limited resource value.
 - Deeper formations beneath the Wealden Group (Purbeck Group and Jurassic/Triassic strata), which contain extremely poor-quality groundwater (formation water) with no resource value.

- **The Applicant's Hydrogeology Report ES Appendix 5 submitted for this application, has highlighted the following hazards from the Proposed Development in the HRA process:**

- Spillage of fuels and lubricants and other materials used by plant and equipment required to carry out the construction, operational and restoration activities associated with the development.
- Flushing of soils/mobilisation of contaminated soils during construction and restoration works.
- Spillage/leakage of domestic sewage and wastewater from welfare facilities.
- Loss of drilling muds, additives, cement grout and well treatment fluids during drilling and workover operations.
- Spillage/leakage of recovered hydrocarbons, formation/produced water containing NORM, and chemicals stored at or transported to/from the Site.
- Migration of natural gases, hydrocarbons and formation/produced water containing NORM from deep formations, e.g. vertically through overlying formations, along geological faults or abandoned wells Arreton-1 and Arreton-2. Well casing failure and leakage of well treatment fluids, natural gases, hydrocarbons and formation/produced water containing NORM water from the wellbore.
- The surface water drainage system in the vicinity of the Site including: local drainage channels, surface water ponds; the tributary stream of the River Medina and ultimately the River Medina and associated GWDTes downstream of the Site.

UKOG's response to this has been to claim that they have mitigated all of the concerns adequately to reduce medium and high risk factors to water supplies to LOW

However, having read their report I had many questions and concerns. I made contact with Dr David K. Smythe, renowned Emeritus Professor of Geophysics, University of Glasgow, to assist me in understanding the complex report and to clarify some issues in its findings.

- **Conclusions from Dr Smythe's report** indicate that there are **very real risks** to our water supply, due to the **Applicant's incorrect information and outdated data** and are copied verbatim below.

The Applicant has:

- *Provided conflicting information about the direction of the well tracks proposed.*
- *Failed to appreciate the significance of the complex faulting in the area of the proposed wells.*
- *Failed to provide any background information on the supposed geological structure to be explored, leaving open the suspicion that unconventional targets are being sought.*
- *Been evasive about whether unconventional methods, including acidisation, will be required to produce commercial quantities of oil from the Portland*
- *Failed to consider the environmental risks of drilling at a low inclination, with concomitant likely poor cementing of production casing to the rockface.*
- *Failed to consider that drilling near to the old Arreton wells, which by now are rusting away underground, provides another contaminant pathway to the near- surface aquifers.*

Additionally he made it very clear in his report that it is imperative that ..

“The Applicant needs to correct the severe errors in its proposals, and must also provide a great deal of further information on why it considers that there is a likelihood of oil in commercially extractable quantities at Arreton, given the long prior history of negative results. This information needs to include interpreted seismic data, structural maps, and reinterpretations of the oil geochemistry.”

He concluded...

“If the Applicant wishes to pursue its Arreton proposal, the old Arreton wells need first to be re-accessed so that their integrity can be checked; alternatively, new wellpaths should be sited at least 1 km away from these old wells.

Given the doubt about the very existence of the Arreton structure, a 3D seismic survey should be undertaken in advance of any drilling, so that a full and accurate 3D geological image of the volume to be drilled can be acquired.

*If this study produces favourable results, it could restore some faith in the seriousness of the Applicant's intentions towards conventional exploration, and form the basis of a new application.
In conclusion, in view of the inadequacies in the Applicant's proposals, and the hydrogeological risks that they entail, I recommend that the Council should reject the application."*

I consider it crucial that Dr. Smythe's report should therefore also be shared with you, to assist in reviewing your current decisions and reports to the Environment Agency, to ensure that there will be **no risk** to our water supplies.

I look forward to hearing your opinion on this matter once you have had the opportunity to read the evidence in the report.

Kind regards