

Environment Agency
PSCpublicresponse@environment-agency.gov.uk

12 April 2017

Response, submitted for and on behalf of CPRE Sussex to:

RH14 9ED, Kimmeridge Oil & Gas Limited: environmental permit consultation

Dear Madam/Sir,

1. CPRE Sussex objects to Kimmeridge Oil & Gas Limited's (KOGI) environmental permit application for Broadford Bridge 1, Wood Barn Farm, Adversane Lane, Broadford Bridge Billingham, RH14 9ED.

1.1 We ask that the Environment Agency, having regard to the implications for environmental quality and the conservation of the County's increasingly vulnerable water resources, be minded to invoke the Precautionary Principle and refuse Kimmeridge Oil & Gas Limited's application for a variation to the existing mining waste permit. We recognise that the purpose of this permit is for initial exploration which could lead to the substantial extraction of oil or gas; for this reason, sensitivity to environmental issues and the avoidance of further degradation, both above and below ground, are particularly important.

1.2 It is our view that:

1.2.1 This substantial variation to the existing mining waste permit sought by KOGI should be subject to a new planning application through West Sussex Council.

1.2.2 The application can only be assessed objectively in the context of Kimmeridge Oil & Gas Limited's full future programme for industrial scale development of this rural site. This will almost inevitably include provision for hydraulic fracturing and high pressure injection of hazardous chemicals.

2. There is special concern with respect to the integrity of a strategic public water supply source in an area where the balance of water resources has been assessed by the Environment Agency as "seriously stressed".

2. We are advised by Mr Graham Warren BSc. Geol, MSc/DIC EngHydrol, FGS, MICE, Ch.Eng (ret), MCIWEM, CWEM of the following (paragraphs 2.1 to 2.14):

2.1 There is special concern with respect to the integrity of a strategic public water supply source in an area where the balance of water resources has been assessed by the Environment Agency as "seriously stressed".

2.2 The site is on Weald Clay incorporating lenses of limestone and sandstone, some extending for more than 10km, and overlying Tunbridge Wells Sandstone, an active secondary aquifer feeding springs and streams in the headwaters.

2.3 Downstream at Hardham (TQ 041 167) there is Southern Water's new river intake for a 10MI/d public supply station, which was specifically commissioned as a strategic source to safeguard supplies under drought conditions for 100,000 households.

2.4 The area features a high density of geological faults, including faults that provide pathways for the migration of contaminants into the over-lying aquifers of the Hastings Beds and the sandstone and limestone lenses in the Weald Clay – and from there into springs and surface water courses.

2.5 This is of special significance, given the reference in the applicant's Non-Technical Summary Fig. 2.1 (Indicative Well Design Schematic) to "*possible shallow gas*" in the Lower Tunbridge Wells Sands, an important aquifer supporting abstraction for potable use and agriculture.

2.6 This formation could, in turn, connect via the fault complex, with shallow groundwater units in the Weald Clay and from here into the headwater tributaries of the River Arun.

2.7 If the gas reported by the Applicant can be shown to originate from the Kimmeridge, this would point to a direct path for the contamination of the region's surface and groundwater systems. This has profound implications for public water supplies and the wider water environment..

2.8 Contamination of the Upper Arun could take place at any point between Broadford Bridge and Hardham, either by direct discharge or migration from shallow aquifers.

2.9 The applicant's Waste Management Plan incorporates a risk assessment protocol in compliance with Environment Agency Guidance, and documented in Appendix 3. It concludes that "*with the implementation of appropriate risk management measures, potential hazards from the activities are unlikely to be significant*"

2.10 However, the 'traffic light' scoring system is entirely subjective and allows no meaningful assessment of the probability of any given event.

2.11 The discussion of Control and Monitoring (Sect 7.0) deals with "only limited monitoring of selected parameters," and even assuming that such measures could reduce the environmental impact; they can neither eliminate nor protect against the induced migration of contaminants into any over-lying water bearing formations. Neither can they provide adequate warning – given that such events occur at depth and much of the damage will have been done before any indication is registered at the surface. Once triggered, there are no wholly effective techniques available for arresting its progress or ameliorating its impact.

2.12 There is also a routine requirement for continuous, 24 hour supervision of all down-hole operations (including formation sampling, fluid injections and pressure tests) by independent specialist inspectors.

2.13 The question arises however, as to whether the appropriate Regulators would have the necessary resources and staffing levels to ensure compliance by the operator.

2.14 There would therefore seem to be little to be gained by undertaking an extensive exploratory programme for a groundwater regime known to be unstable, and where any intrusive development such as fracking or any fluid injection under pressure could result in wide-spread environmental contamination.

3. Contrary to the applicant's Site Condition Report there are protected sites within 10km of the Broadford Bridge site.

3.1. The applicant's Site Condition Report advises at paragraph 3.2.1, under the heading 'Environmental Statement Overview', that "*there are no protected sites within 10km of the site*".

3.2 However, mapping at www.magic.defra.gov.uk/MagicMap.aspx depicting the locations and extent of sites with designated protection, shows that there are sites within 10km of KOGL's site at Broadford Bridge, including the Mens SAC/SSSI, Arun Valley RAMSAR, Upper Arun SSSI, Pulborough Brooks SSSI, Hurst Warren SSSI, Marehill Quarry SSSI, Parham Park SSSI and Bognor Common Quarry SSSI.

3.3 The impact that the applicant's exploratory operation could or would have on these sites, and their flora and fauna, is an important consideration for the deciding of the application. Potential impacts need to be identified and assessed and the results presented in a report for inclusion in the application bundle.

3.4 Natural England should be consulted.

4. Impact on nearby Ancient and Semi-Natural Woodland, and any protected species, needs to be assessed, reported and considered by decision takers.

4.1 The applicant's Site Condition Report advises at paragraph 5.1 that "*There are no statutory designated habitat sites within the Environmental Permit application boundary or its immediate vicinity*".

4.2 KOGL's site, however, does lie in close proximity to designated 'Ancient & Semi-Natural Woodland' (Prince's Wood and Gatewick Copse: www.magic.defra.gov.uk/MagicMap.aspx).

4.3 The impact that the applicant's exploratory operation, including flaring of associate gas, noise emissions and lighting, could or would have on this woodland, and any protected species, including bats and birds, is an important consideration for the deciding of this application.

4.4 "*Apart from the impact on people's experience of the countryside, there is an increasing awareness of the effect that light pollution can have on wildlife, by interrupting natural rhythms including migration, reproduction and feeding patterns*" (CPRE 'Night Blight: Mapping England's light pollution and dark skies', June 2016, page 4)

4.5 CPRE's interactive 'England's Light Pollution and Dark Skies Map' shows that the locality is relatively free from light pollution (<http://nightblight.cpre.org.uk/maps/>).

4.6 As is clearly stated by Government Circular 06/2005: 'Biodiversity and Geological Conservation-Statutory Obligations and their impact within the planning system', at:

Paragraph 98: "*The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat*". And at:

Paragraph 99: "*It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision*. The need to ensure ecological surveys are carried out should therefore only be left to coverage under planning conditions in exceptional circumstances, with the result that the surveys are carried out after planning permission has been granted".

4.7 Accordingly, whether protected species are present needs to be determined and the extent that they, as well as other protected fauna on the site and its environs, may be affected by the application are significant material considerations in deciding this application.

4.8 Please note, too, that NPPF paragraph 165 stipulates that "*planning policies and decisions should be based on up-to-date information about the environment and other characteristics of the area*".

4.9 The Site Condition Report refers to an 'Environmental Statement'(e.g at paragraph 3.2.1), which seems to have been omitted from the applicant's consultation bundle.

5. How compounds released by the flaring could or would impact on people, flora and fauna needs to be explained. The onus must be on KOGL to show that the expected content of the flaring will have no deleterious effects on people or the environment.

5.1 The applicant's Waste Management Plan at page 52 advises that "*The predominant higher hydrocarbon compounds present in flare releases are expected to be acetylene, ethyl benzene, benzene, styrene, ethynyl benzene and naphthalene*".

5.2 Unfortunately, how compounds released by the flaring could or would impact on people, flora and fauna is not explained. The onus must be on KOGL to show that the expected content of the flaring will have no deleterious effects on people or the environment.

5.3 A map showing prevailing-downwind plume/hazard footprint of the hydrocarbon compounds that would be released by the flaring is necessary.

6. Ecotoxicity effects of some of the chemical products that would be used and stored on site are unknown and/or there is no information available for their persistence and degradability. This lack of essential information gives cause for concern and without full information about all chemicals, their effects and interactions, their use should be ruled out.

6.1 CPRE Sussex considers that a fundamental ecological starting point must be that no toxic substances should be introduced into the environment, or inserted in the ground, whose effects cannot be completely known, controlled or wholly withdrawn after use.

6.2 It is apparent from the toxicological information given in the applicant's Safety Data Sheet that the ecotoxicity effects of some of the chemical products that would be used and stored on site are unknown and/or there is no information available for their persistence and degradability: e.g. CFR-8L, CT-31/02WT, HALAD® 300L, NF-6, PROTEKT 4852, SILICALITE LIQUID. And, although it is stated in the Safety Data Sheet that GLYDRIL† MC is not considered toxic either to fish, invertebrates or algae, it has a component for which the Data Sheet advises that there is no information available as to its toxicity to fish, invertebrates or algae.

6.3 This lack of essential information gives cause for concern and without full information about all chemicals, their effects and interactions, their use should be ruled out.

Conclusion.

To conclude, we ask that the Environment Agency, having regard to the implications for environmental quality and the conservation of the County's increasingly vulnerable water resources, be minded to invoke the Precautionary Principle and refuse Kimmeridge Oil & Gas Limited's application for a variation to the existing mining waste permit.

Yours faithfully,

R F Smith DPhil, BA (Hons), FRGS
Trustee CPRE Sussex

Copy to Director CPRE Sussex