Construction of a wellsite and operation of a drilling rig for the appraisal of subsurface hydrocarbons, well testing and retention of equipment – Land east of The Mill Yard, Burniston Mill, Coastal Road, Burniston, Scarborough

Environmental Impact Assessment – Non Technical Summary Volume IV

Europa Oil and Gas Limited

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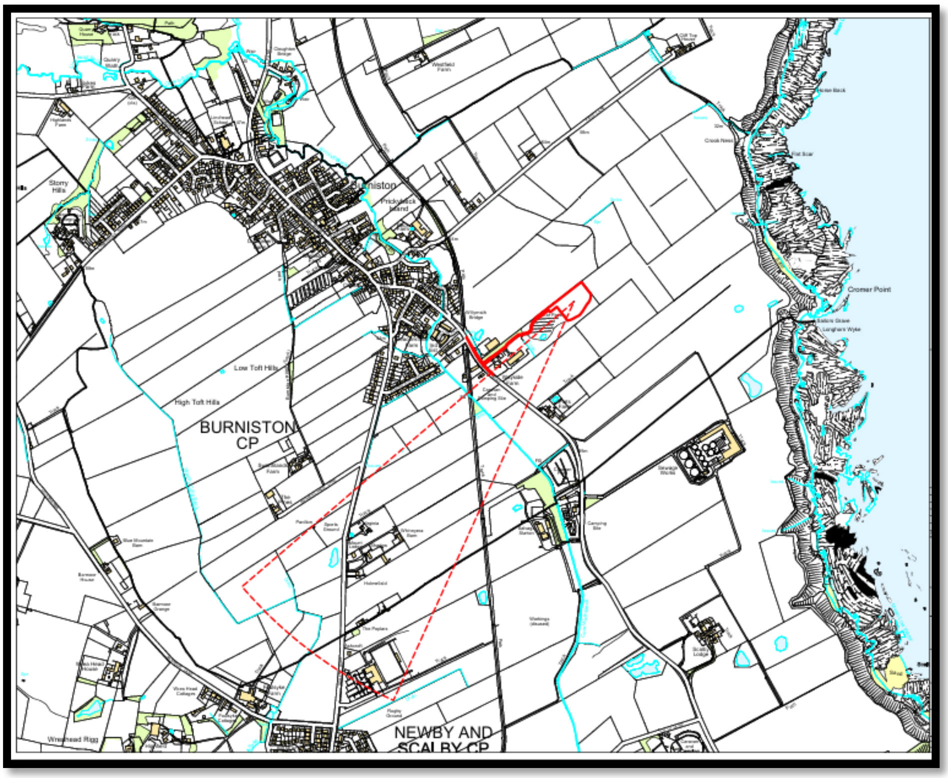
Introduction

Europa Oil and Gas Limited ('Europa') has submitted a planning application to construct and operate a wellsite in order to search for gas on an agricultural field at Burniston Mill, Coastal Road, Burniston, Scarborough, North Yorkshire. The planning application has been submitted to North Yorkshire Council (NYC) as the Mineral Planning Authority (MPA).

Europa are seeking a temporary planning permission for three years. The site will be restored back to its current use at the end of the development. If Europa obtain planning permission for this wellsite and discover large reserves of natural gas, it will need to prepare and submit a separate planning application to the Council to produce and export the gas.

This document is a non-technical summary which describes the findings of an Environmental Impact Appraisal (EIA) undertaken by Europa and its consultants. The Council has requested an EIA be carried out to find out if the wellsite will have any significant effects on the local landscape and on the local roads.

The proposed Cloughton wellsite (hereafter referred to as "the Site") is located approximately 350 m east of the village of Burniston and 6 km north of Scarborough. The Site covers an area of 1.4 hectares (ha) of land and includes an access track from the A165 Coastal Road Street (to the west).



Site Location

The map above shows the red line boundary of the planning application. The dotted red line shows the broad direction and distance of the underground borehole which will be drilled.

Is this Fracking?

The borehole is a single conventional gas well targeting conventional tight gas sands. The sands at depths of over 2.0km will require stimulating (enhanced productivity) through a proppant squeeze operation. This operation will result in a small hydraulic fracture at depth. Onshore proppant squeeze operations in conventional wells have been conducted safely and successfully for over 50 years in the UK.

The single borehole and the proppant squeeze operation are not to be confused with the practises of drilling multiple boreholes, horizontal drilling and multistage, large volume hydraulic fracturing associated with Shale Gas development or “fracking” (currently banned in the UK and therefore not part of this planning application).

The proposal is for natural gas exploration and does not relate to fracking or Shale Gas development.

The Application Site and Surroundings

The Site lies in a rural area with very few nearby residential properties nearby. The closest residential properties are Wayside Farm, 320m to the south west, and residential properties on Coastal Road, 350 m to the south west. The access road off the Coastal Road is also used by three industrial units, part of the Mill Yard.

The Site, which falls gently away to the south, is largely poor quality grassland. The agricultural land quality of the soil is 3b, which means it is not the best soil for growing crops. The Site lies at an elevation of approximately 57 m Above Ordnance Datum (mAOD).

The boundary of the North York Moors National Park is approximately 800m to the north. The Site is located within the North Yorkshire and Cleveland Heritage Coast. The nearest public right of way is the Cleveland Way which follows the coastline 730m to the north.

The Iron Scar and Hundale Point to Scalby Ness SSSI lies 800m to the east and is the closest statutory designated ecological site to the Application Site.

The nearest listed building is 500m away in Burniston.

The Site is not located within an area that is a source for drinking water. The Site lies within Flood Zone 1, which has a very low risk of flooding. The Site has good air quality.

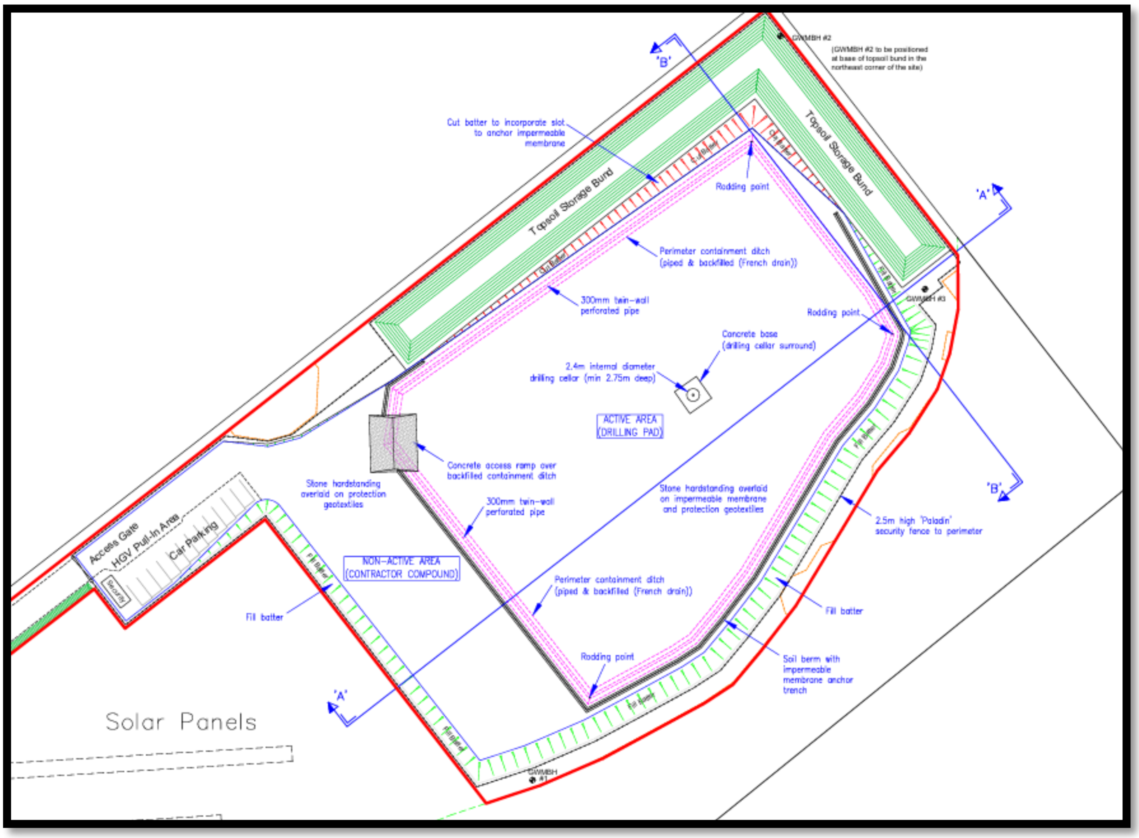
View of the Site south and west towards Burniston

The Proposed Development

There will be four phases of development if planning permission is granted.

Phase 1: Site Construction

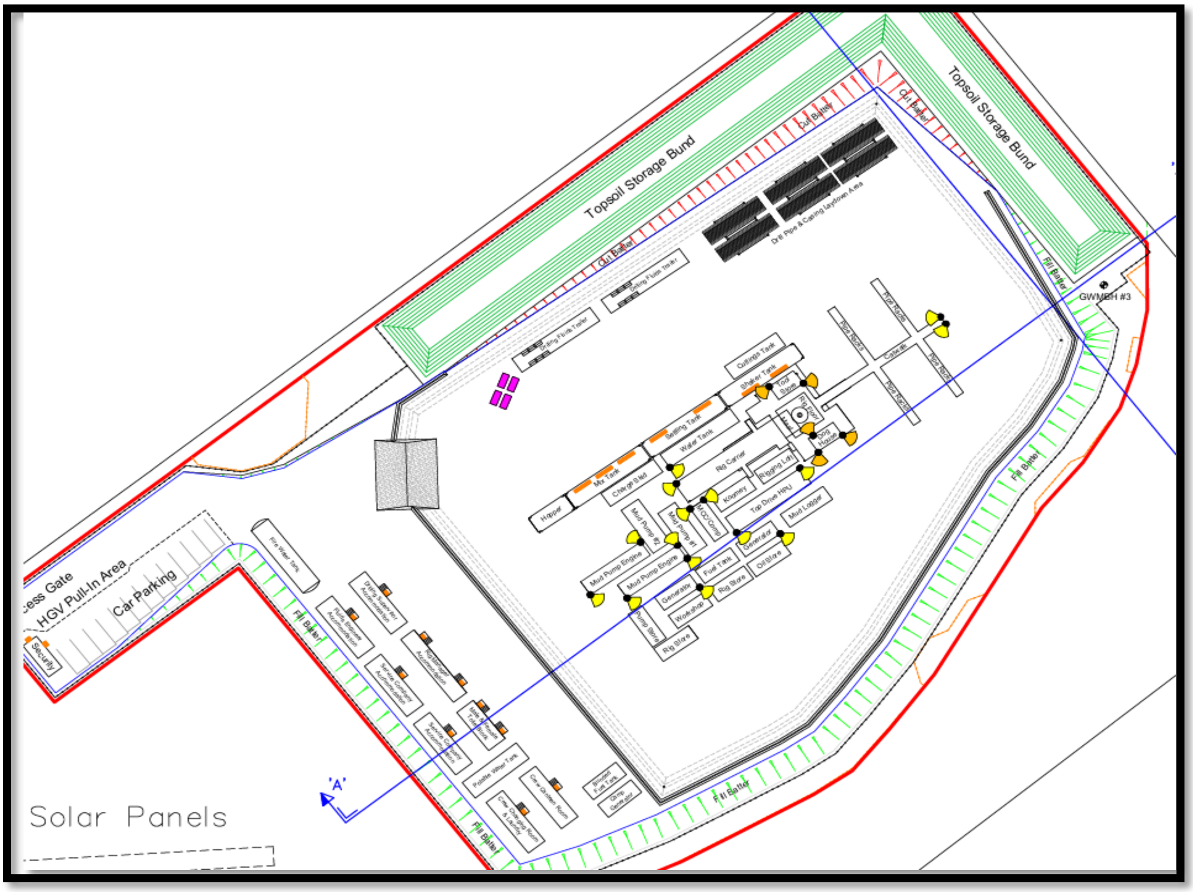
The site would be stripped of topsoil and this would be stored separately in earth bunds. No trees or hedgerows will be felled or removed. A protective membrane would be installed across the site which would be covered with stone. This phase would typically last around seven weeks, working during the daytime but not on Saturday afternoons, Sundays or Bank Holidays.



Site Construction Plan

Phase 2: Drilling Operations

The next phase would see a drilling rig brought to the Site, along with security cabins, generators, water and fuel tanks, matting boards, blow out preventers and manifold. Approximately 10 car parking spaces would be provided. The drilling phase would also take around seven weeks to complete - one week to set up the rig, five weeks for drilling and a week to take the rig down. One underground conventional borehole would be drilled from the Site to the south west, between Burniston and Scalby, approximately 1.8 km in distance, reaching a depth of approximately 2.3km below the surface.



Drilling Phase (5 weeks)

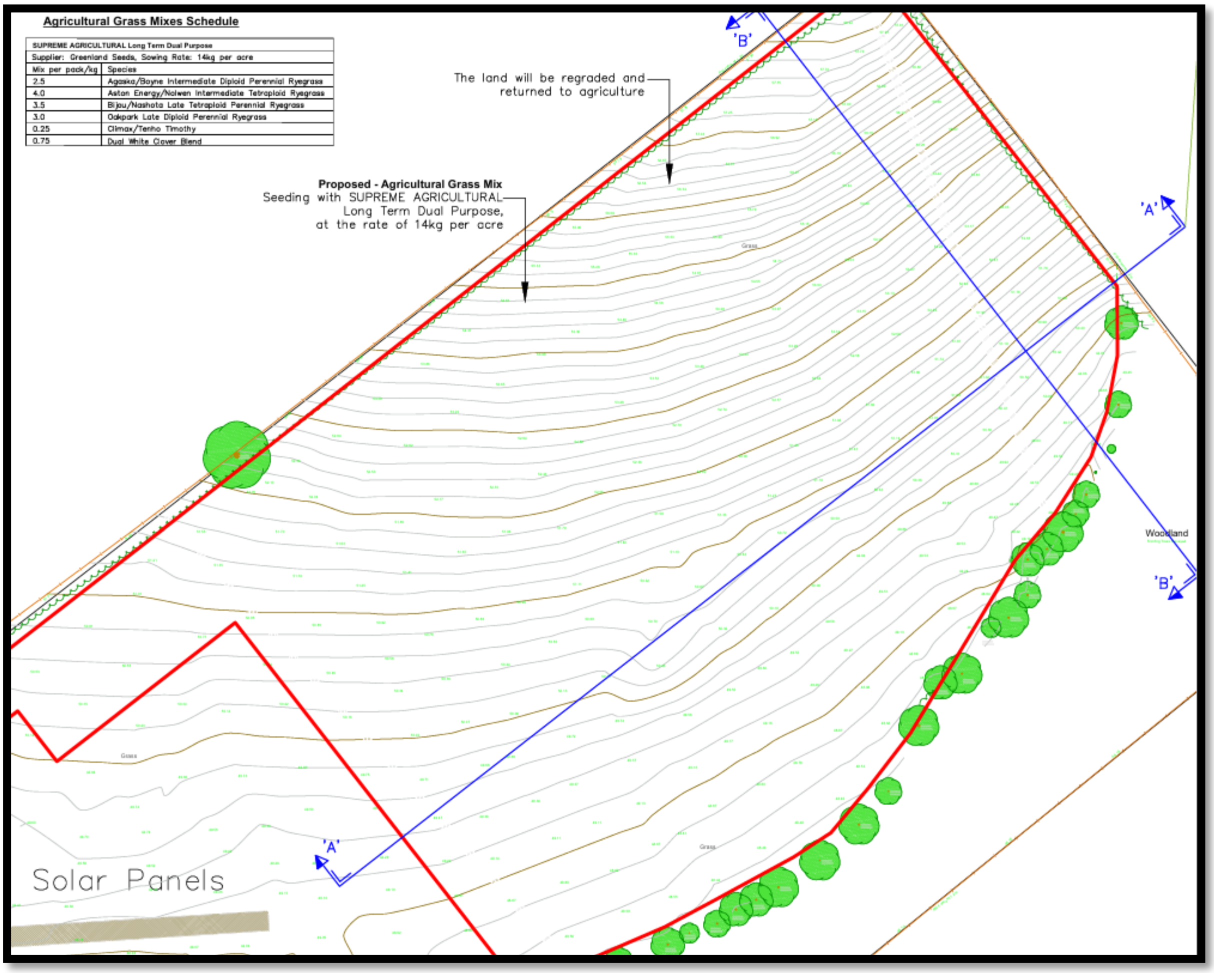
Phase 3: Proppant Squeeze and Flow Testing

In order to find out of there are gas reserves, Europa need to undertake a proppant squeeze. The involves pumping a small amount of mix of fluids (98% water) and sand particles (proppant) down the wellbore under pressure. Unlike fracking a proppant squeeze requires the use of only a small volume of fluid to stimulate the rock that holds the gas.

Phase 3 is expected to take up to 17 weeks in total, comprising an initial testing of a week, followed by a proppant squeeze operation lasting around one week, and then testing the reservoir for up to fifteen weeks. The test phase is not a continuous period of gas flow but will involve short periods of flow and longer periods of no flow. The period of 17 weeks reflects periods which will be used to analyse and validate data collected to ensure a comprehensive data set is achieved.

Phase 4: Well Decommissioning and Site Restoration

At the end of the testing phase, all equipment, infrastructure, membranes, aggregate and facilities will be removed. The stored topsoil bunds will be tested and reused to ensure compatibility with the surrounding land quality. The site would be restored to agricultural use or to an approved new use agreed with NYC and the landowner.



Site Restoration

Site Selection

Europa are limited in their consideration of suitable locations for a wellsite by a number of factors, including:

- the extent of the geographical area covered by the licence issued by the Secretary of State;
- the below ground geology; and
- proximity to the National Park boundary.

The chosen Site at Burniston Mill has a number of benefits including:

- existing direct access off the strategic road network and an existing access used by HGVs;
- low risk of flood risk;
- distance from residential properties;
- existing screening of mature trees and hedgerows; and
- limited archaeological interest.

Environmental Impacts

Traffic

During the site construction and restoration phases, HGVs will visit between 7 am and 7 pm Monday to Fridays and from 7 am to 1 pm on Saturdays. Hours will be extended to 7pm on Saturdays during the drilling and flow testing phases. There will be no HGVs coming to site on Sundays or Bank Holidays.

HGV traffic will use the existing access off the A165 Coastal Road. Signage will be in place at the entrance to the Site. No changes are proposed to the Site access junction off the A165.

A compound located to the south west of the wellsite will be used for 12 car parking spaces.

The anticipated HGV numbers for each phase of development are shown below.

Anticipated HGV Numbers

Phase	Phase Duration	Total HGVs	Average HGVs per day	Maximum HGVs on any one day
Phase 1 Site Construction	**7 weeks**	**334**	**8**	**18**
Phase 2 Drilling Operations	**7 weeks**	**330**	**8**	**17**
Phase 3 Proppant Squeeze & Flow Testing	**17 weeks**	**140**	**8**	**5**
Phase 4: Well Decommissioning, Site Restoration and Aftercare	**6 weeks**	**350**	**10**	**17**

HGVs would travel to the Site along one of three routes.

HGV Routes to and from the Site

Likely Impacts

The Proposed Development will add new vehicle movements to the surrounding highway network for a temporary period. The greatest number of HGVs is anticipated when the drilling rig is brought to site before drilling and removed from site after drilling. There will be a combined total of 46 vehicle trips per day, including 36 HGV movements. When compared to existing traffic numbers on Coastal Road, these trips represent a very small increase in both total traffic and HGV volumes, adding up to 0.79% to daily vehicle volumes during the non-peak season and approximately 4.5% to HGV volumes in peak construction phases.

HGV movements to and from the Site would be limited to 7 am to 7 pm Monday to Fridays and 7 am to 1 pm on Saturdays. However, all HGV traffic and abnormally large vehicles would be scheduled to arrive and depart outside peak hours, that is, 8 am to 9 am and 5 pm to 6 pm.

With these planned mitigation measures, including the scheduling of HGV movements outside of peak AM and PM periods, the development is expected to integrate smoothly with existing road use and have a very small impact on local traffic conditions.

Landscape and Visual

The Site is currently screened by mature hedgerow along the north western and north eastern boundaries. There is one mature tree on the north western boundary and a belt of semi mature trees along the south eastern boundary. The construction of 3m high topsoil storage bunds along part of the north western and north eastern boundaries will result in a well screened and unobtrusive Site.

The short timescale and height of the most visible element of the proposed development, the drill rig, renders any additional mitigation measures inappropriate in relation to that impact. Overall, there is sufficient existing vegetation in the vicinity of the Site for the majority of activities to be well screened from the majority of external viewpoints. On the basis of the nature of the key elements and existing screening, no further mitigation is proposed.

There will be some moderate negative effects during the construction, drilling and restoration phases for visitors and users to the Heritage Coast. Any views during the development would not be significant and would be negligible once the site has been restored.

On the western edge of Burniston on elevated ground, there are expansive views across the rural landscape towards the Heritage Coast. Here, views are likely to be limited to the uppermost parts of the drilling rig for a maximum of seven weeks.

View from Limestone Road, Burniston

The photomontage below shows the outline of the drilling rig viewed from Station Road, Burniston, within the National Park. This viewpoint is representative of views from residential properties on higher ground in Cloughton.

View from Station Road, Burniston

At night, a very small number of residents on higher terrain in Burniston may experience views of the lighting of the drilling rig. However, there would be no effect on Dark Skies.

View from Limestone Road, Burniston at night

Views at night are judged to be minor effects on visual amenity.

Cumulative Effects

There are no other developments within the vicinity of the Site either with planning permission or in the pipeline that in conjunction with the Proposed Development, would give rise to significant adverse impacts.