Cloughton 2 Wellsite

Surface Water Management Plan

Environmental Permitting (England and Wales) Regulations 2016

- **Application for a Bespoke Mining Waste Operation**
- **Application for a Bespoke Installation**
- **Application for a Bespoke Groundwater Activity**

Issue Number:	Details:	Prepared By:	Reviewed By:	Authorised By:
250207	Draft for Client Review	Tony Fildes (Zetland Group)	Jamie McGill (Europa)	Alastair Stuart (Europa)
250424	Initial issue for an Application for a Mining Waste Operation with Flare, a Mining Waste Facility and a Groundwater Activity	Tony Fildes (Zetland Group)	Jamie McGill (Europa)	Alastair Stuart (Europa)

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1 PURPOSE AND CONTEXT

This Surface Water Management Plan forms part of an application to the Environment Agency to authorise the undertaking of specific 'permitted activities' at the Cloughton 2 Wellsite (herein referred to as the 'Wellsite'). With regards to onshore oil and gas operations, a number of activities are considered applicable to the environmental permitting regime.

The wellsite within which the 'permitted activities' are undertaken is considered a 'regulated facility' under The Environmental Permitting (England and Wales) Regulations 2016, as amended (EPR2016) [Ref.1]. Throughout the life of the wellsite, this Surface Water Management Plan shall be considered a live 'operating technique' and must be complied with as it forms part of the environmental permit.

The purpose of the Surface Water Management Plan is to outline the surface water management arrangements to be implemented at the Cloughton 2 Wellsite (the 'Site') during the proposed drilling and testing operations, which for clarity includes drilling of the Cloughton-2 Well, workover and testing operations.

Europa Oil & Gas Limited is the 'Operator' as defined under EPR2016 and shall herein be referred to as the Operator within this Surface Water Management Plan.

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2 SCOPE

This Surface Water Management Plan is applicable to the Cloughton 2 Wellsite and all operations conducted therein. It is applicable to the Operator, its contractors and subcontractors and can be used to support an application to the Environment Agency for an environmental permit under EPR2016.

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3 ABBREVIATIONS AND DEFINITIONS

CIRIA:	Construction Industry Research and Information Association
EPR2016:	The Environmental Permitting (England and Wales) Regulations 2016, as amended
Groundwater Activity:	Has the meaning given within Regulation 2 of EPR2016
ha:	Hectare
HDPE:	High Density Polyethylene
M^2:	Metre Squared
m^3:	Cubic Metre
m:	Metre
mm:	Millimetre
Mining Waste Facility:	Has the meaning given within Regulation 2 of EPR2016
Mining Waste Operation:	Has the meaning given within Regulation 2 of EPR2016
Operating Technique:	Documents approved by the regulator to ensure compliance with the issued permit
Operator:	Has the meaning given within Regulation 7 of EPR2016
Permitted Activities:	Any activity or operation defined within Schedule 1 to 29 of EPR2016
Regulated Facility:	Has the meaning given within Regulation 8 of EPR2016

Table 1: Abbreviations and Definitions

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4 SITE DETAILS

4.1 Development Location

The proposed wellsite is located in the countryside in the county of North Yorkshire. It is centred on grid reference TA 02081 92802 and located at the following address:

Cloughton 2 Wellsite

Land east of The Mill Yard

Burniston Mill

Coastal Road

Burniston

Scarborough

YO13 0DB

Figure 1: Cloughton 2 Wellsite – Proposed (Source: Google Earth 28/08/2024)

4.2 Environmental Setting

The proposed Wellsite currently comprises farmland adjacent to an existing ground-mounted solar photovoltaic array. The Wellsite lies to the south east of the village of Burniston and is accessed from the A165 Coastal Road. The Wellsite falls within Burniston Parish Council and covers an area of approximately 1.2 ha.

The Wellsite lies within a rural area. However, there are a number of industrial units served by the existing access track to the south. An animal feed mill, served by a separate access, lies 200m to the southwest of the Wellsite.

The Wellsite is partially screened by existing woodland on its southern boundary and intermittent (gappy) hedgerows to the wider field boundaries to the north sides.

The closest residential receptors are:

- Wayside Farm – 280m West; and
- Burniston – 310m West.

4.3 Flood Zone Setting

The site is located within an area designated as Flood Zone 1 by the Environment Agency.

An assessment of the flood risks has been undertaken and documented within the Hydrogeological Impact Assessment (HIA) undertaken the Operator's Hydrogeological Consultant.

The Flood Risk Assessment is compliant with the statutory requirements of the National Planning Policy Framework (NPPF) (December 2023) and associated Planning Practice Guidance (PPG) for Flood Risk and Coastal Change (last updated August 2022) and has been undertaken due to the nature and scale of the development and the area of the application site boundary.

The fluvial and surface water flood risk zones are shown on Drawings 3729/HIA/03 and 3729/HIA/04 provided within the HIA.

The Northeast Yorkshire Strategic Flood Risk Assessment (SFRA) produced in March 2006 by Arup and updated in 2010 mapped the coastal area between Burniston and Filey as a soil zone where the dominant soil type is slowly permeable, seasonally wet, slightly acid but baserich loamy and clayey soils, indicating that this type of soil is prone to slight waterlogging.

The 1:250 000 scale reconnaissance soil map of the area (Soil Survey, 1983) shows the whole of the site to be mapped as soils of the Salop Association. Salop Association soils are briefly described by the Soil Survey (1983) as 'Slowly permeable seasonally waterlogged reddish fine loamy over clayey, fine loamy and clayey soils associated with fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging.

Therefore, waterlogging is possible in winter months.

5 CONTAINMENT SYSTEMS

5.1 Surface Water Containment System

The Wellsite is to be constructed with an HDPE impermeable liner so as to ensure that any surface run-off water or spillages are contained within the active area of the Wellsite. Surface run-off water collected within the active area will flow down gradient to the perimeter containment ditch.

For clarity, it is the intention of the 'Operator' not to discharge surface run-off water from the Wellsite.

5.1.1 Surface Run-off Water

Surface run-off water from precipitation will accumulate within the perimeter containment ditch located within the Wellsite. The level of surface run-off water within the secondary containment systems will be monitored to ensure that overtop does not occur and that surface run-off is contained within the Wellsite.

Surface run-off water contained within the perimeter containment ditch will be tested prior to being transported offsite by a licensed road haulier to an Environment Agency licensed waste water treatment / waste water disposal facility.

If the results of the test identify that the surface run-off water is contaminated from any site spillages, arrangements will be made for the surface run-off water to be transported offsite by a licensed road haulier to a relevant Environment Agency permitted waste treatment facility.

5.2 Secondary Containment Systems

Surface run-off water from precipitation will accumulate within the secondary containment systems located within the Wellsite. The level of surface run-off water within the secondary containment systems will be monitored to ensure bund overtop does not occur.

When required, surface run-off water (includes surface water contaminated by the site inventory and/or fire-fighting water / cooling water) contained within the secondary containment system will be transferred offsite to an Environment Agency Licensed Waste Water Disposal / Treatment Facility via road tanker.

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6 MEASURES TAKEN TO PROTECT THE LAND

6.1 Impermeable Liner and Containment Systems

Construction of the Wellsite will be undertaken during Phase 1 and will include construction of an access track, site clearance works, well cellar and hard standing construction.

The active area of the Wellsite hardstanding will be constructed with a perimeter containment ditch and underlaid with a fully welded HDPE environmental membrane. The environmental membrane and perimeter containment ditch ensures that any accidental spillages that may occur during the subsequent phases of operation are contained within the Wellsite.

6.2 Well Cellar Integrity Testing

The construction of the well cellar within the centre of the 'active area' of the Wellsite, forms a containment area from which the well will be drilled, whilst also housing the wellhead. A concrete drilling pad will be constructed at surface, immediately surrounding the well cellar.

Once the well cellar has been completed an integrity test will be carried out to confirm its integrity. The test consists of filling the cellar with water and monitoring water loss over a period of 24 hours. The water level is marked on the side wall of the cellar using marker dye to provide a reference point. The cellar is then covered to avoid both water fill (precipitation) and water loss through evaporation.

If no water loss within the drilling cellar is observed, the well cellar will be considered integral. This test will be repeated in line with the Operators procedures.

6.3 Materials and Storage

Dedicated CIRIA C736 [Ref.2] compliant bunds will be installed where required to act as secondary containment for the storage and handling of substances, in particular hazardous materials and produced water.

Spill kits will be available on site and close to identified pollution sources (e.g. fuel storage areas).

All oil containers, secondary containers and vehicles will be visually inspected on a daily basis to check for signs of damage, corrosion, bulging, leaks or unauthorised use.

No refuelling of plant and equipment will take place without the use of a drip tray and where practicable undertaken in close proximity to spill kits.

Emergency response plans for the site will also be established whilst also considering plans to manage any spills.

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7 SURFACE WATER MANAGEMENT

7.1 Permitted Discharges

The Operator is not applying for a surface water discharge activity and therefore no discharges to surface water will be permitted to be undertaken from the Wellsite.

Surface run-off water contained within the perimeter containment ditch will be transported offsite by a licensed road haulier to an Environment Agency Licensed Waste Water Treatment / Waste Water Disposal Facility.

7.2 Sampling and Analysis

7.2.1 Sampling Philosophy

The reason for sampling surface run-off water is two-fold. Firstly, there is a requirement to ensure that surface run-off water being transfered from the site has been assessed and identified with the correct European Waste Catalogue (EWC) code.

Secondly, the testing of the surface water is part of the site integrity management. The results from the surface water testing can be corroborated against the results of the groundwater testing to determine whether there is a leak pathway between the site surface and the groundwater.

Parameters to be analysed within the surface run-off water contained within the perimeter containment ditch will be dependent on operations being undertaken at the time.

Where a risk of contamination is increased significantly by the introduction of potentially polluting substances to the Wellsite, the parameters of these substances shall be analysed.

Potentially polluting substances includes both hazardous substances and non-hazardous substances which could cause surface water pollution.

7.3 Sampling Methodology

1. All sampling equipment shall be clean, sanitised and in working order prior to use.
2. Suitable sampling locations shall be identified, ideally fixed and marked as the sample spot for consistency.
3. Water shall be visually inspected and the following details shall be recorded:
    a. Depth of water;
    b. Signs of oil / grease;
    c. Date and time; and
    d. Weather Conditions;
4. Nitrile Gloves shall be applied and sample containers marked-up as necessary detailing the following:
    a. Client Name for Laboratory (Europa Oil & Gas Limited);
    b. Location (i.e. Western Perimeter Containment Ditch / Eastern Perimeter Containment Ditch);
    c. Sample Identification; and
    d. Date and time sample taken.
5. The sample shall be collected from the perimeter containment ditch below the surface layer. Caution must be taken when sampling in shallow water that debris from the bottom is not disturbed. If disturbance occurs, the sample should be disregarded and retaken.
6. Sample bottles shall be filled completely, so as to remove air when the top is screwed on, unless otherwise stated by the laboratory. Water bottles shall be filled on a flat clean surface.
7. Sample bottles shall be placed into the cool box provided.

8. Beakers shall be filled and hand probes used to measure field water chemistry parameters (pH, electrical conductivity, temperature).
9. Paperwork shall be completed and shall accompany the samples to the laboratory which shall arrive within 48 hours of being taken. Storage of the samples shall be suitable and include a cool box to store samples at the necessary temperatures.

7.4 Surface Water Analysis

Records of all the surface water sampling analysis will be recorded within the Operator's Environmental Management System. The records will include the date, time and all relevant results of monitoring and analysis undertaken.

Records will be made available to the Environment Agency for inspection.

7.5 Training

All personnel involved in surface water sampling operations will be trained and competent and a record of training held within the Operator's Environmental Management System.

REFERENCES

1. The Environmental Permitting (England and Wales) Regulations 2016
   Available at: https://www.legislation.gov.uk/uksi/2016/1154/contents/made

2. CIRIA C736 (2014) Guidance
   Available at: https://www.ciria.org/CIRIA/Resources/Free_publications/containment_systems.aspx