



Site Condition
Report

STOCK-EPA-003

Jan 2018

UNITED
KINGDOM &
IRELAND



Stockbridge Oilfield

STK19 Side-track Well

Application for a Variation to a Mining
Waste Permit

EPR/YP3731YK/V001



REVISION SCHEDULE					
Rev	Date	Details	Prepared by	Reviewed by	Approved by
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AECOM Infrastructure & Environment UK Limited

SITE CONDITON REPORT
STOCK-EPA-003

Jan 2018



Royal Court
Basil Close
Chesterfield
S41 7SL

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1 REPORT CONTEXT

This is the Site Condition Report (SCR) for an application to vary the Mining Waste Permit at IGas Energy Development Limited's Stockbridge Oilfield in Hampshire.

The proposed site operations will involve the drilling of a side-track extension of an existing STK19 Injection well at the Hill Farm site, part of the Stockbridge oilfield.

Information relating to the site and the surrounding area has been reviewed in order to describe the condition of the location and, in particular, to identify any substance in, on or under the land that may constitute a pollution risk to the land. Pollution prevention measures have been identified where relevant.

The SCR comprises Section 3 of the application and should be read in conjunction with other supporting application information.

2 SITE DETAILS

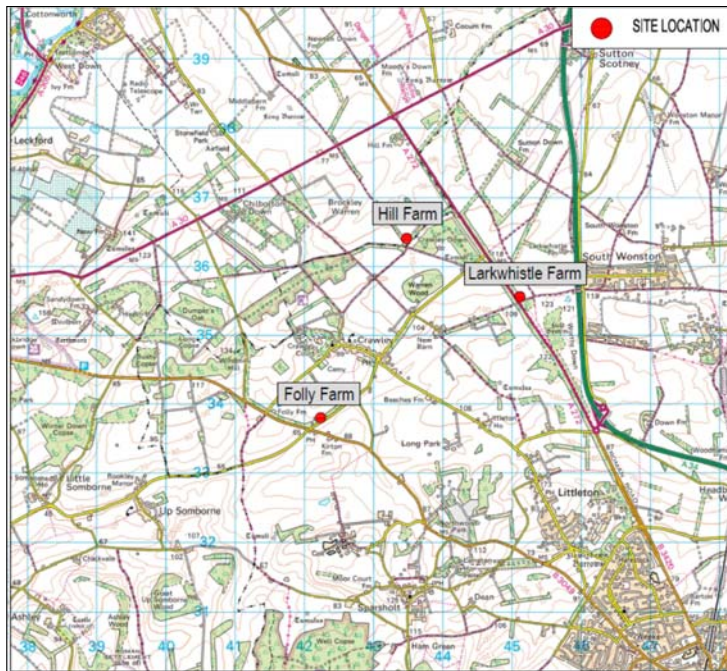
2.1 General Site Description

The Hill Farm site is currently in use for the production of crude oil and associated gas & formation water from underground wells – see Figure 1.

The oil, gas and water mixture is pumped to a small number of above-ground storage tanks located on site. The tanks are located within a bund intended to contain any potential spillage. High level alarms & trips prevent overfilling of the tanks.

The operation and use of the Hill Farm site is covered by an existing environmental permit for the Stockbridge Oilfield as a whole reference EPR/YP3731YK, dated 16th October 2017, a copy of which is provided in Appendix A. Two further neighbouring sites, Larkwhistle Farm and Folly Farm make up the Stockbridge Oilfield.

Figure 1: Stockbridge Oilfield Site Location Plan



2.2 Well Site Details & Description

2.2.1 Hill Farm

Area	Approximately 1.1 hectares.		
Address	Hill Farm Crawley Down Winchester SO21 2PD		
National Grid Reference	Wellhead Coordinates 443,506.02E / 136,430.48N		
Site Co-ordinates	Latitude	Longitude	
OSGB36	51°07'21.9106"N	01°22'41.7137"W	

Hill Farm lies approximately 8 km north of Winchester. The site is accessed via a private track to the A272 linking it to the A30 and A34. The well site is approximately 1.1 hectares in area and currently consists of an operational oil production site, consisting of a single flat compound underlain by an impermeable membrane. The site layout – including the footprint of the rig - is shown on drawing IGAS-HFM-SL-01

The closest residential receptors are in the village of Crawley, 1.5 km WSW of the site. There is a farm 1 km to the south and a Bed and Breakfast business 1.3km south. Chilbolton Down is located 2.5 km to the North West.

3 **CONDITION OF LAND AT PERMIT ISSUE****3.1** **Environmental Consents, Permits and Designations****3.1.1** ***Environmental Consents and Permits***

An Envirocheck Report for the site is reproduced in Appendix B. The report provides extensive information and details on:

- waste management licences;
- environmental permits;
- discharge consents;
- groundwater vulnerability;
- trade effluent consents; and
- records of any land pollution incidents associated with the site.

3.1.2 ***Designated Sites***

The Multi-Agency Geographic Information for the Countryside (MAGIC) website was searched to provide further details of any:

- National & Local Nature Reserves;
- Special Protection Areas;
- Special Areas of Conservation;
- Ramsar sites (England);
- Areas of Outstanding Natural Beauty;
- Ancient Woodlands;
- Biosphere Reserves
- Environmentally Sensitive Areas;
- Sites of Special Scientific Interest; and
- National Parks.

Brockley Warren is a Site of Special Scientific Interest and is located 1.3km from the Hill Farm site. There is a single European Site, the River Itchen Special Area of Conservation, within 10 km of the site. Information obtained from the MAGIC search is in Appendix C.

3.2 Environmental Setting (All Sites – Stockbridge Oilfield)

3.2.1 *Geology*

Larkwhistle Farm

The bedrock and superficial geological information for the site and the surrounding area taken from the British Geological Survey (BGS) 1:50,000 scale geological series, sheets 283 and 299.

The site is situated on the northern limb of the Stockbridge Anticline, approximately 0.5km north of the anticlinal axis, which runs east - west across the area. The site is underlain by the Cretaceous Newhaven Chalk Formation of the White Chalk Sub Group - formerly known as the Upper Chalk (see Figure 2).

There are no superficial deposits recorded at the site. Residual deposits (Clay with Flints) are found on surfaces to the north of the site. Superficial deposits are restricted to head deposits of sandy silty clay within the dry valleys.

Hill Farm & Folly Farm

As above, the bedrock and superficial geological information for the site and the surrounding area taken from the British Geological Survey (BGS) 1:50,000 scale geological series, sheets 283 and 299, and as above, the sites are underlain by the Cretaceous Seaford Chalk Formation, of the White Chalk Sub Group - formerly known as the Upper Chalk (see Figure 2).

There are no superficial deposits recorded at the sites. Residual deposits (Clay with Flints) are found on surfaces to the north of the site. Superficial deposits are restricted to head deposits of sandy silty clay within the dry valleys.

3.2.2 *Hydrogeology*

The site is not located in a groundwater source protection zone (SPZ), see Figure 3.

There are no potable groundwater abstractions within 1km of the site. There are however some abstractions for general agriculture/spray irrigation use.

The Stockbridge sites are underlain by the Chalk a Principal Aquifer (as defined by the Environment Agency) having high fracture permeability and providing a high level of water storage. This aquifer is extensively used for water supply and the public water supply for the local area is entirely drawn from the Chalk aquifer by Southern Water.

3.2.3 *Surface Waters*

The Envirocheck report, reproduced in Appendix B, provides information on the local surface water features in the area.

The sites are located in an areas classified as Flood Zone 1, land with a low probability of flooding. Folly Farm is located immediately adjacent to an unnamed water course which is in Flood Zone 3, i.e. land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.

Figure 2: Geological Map

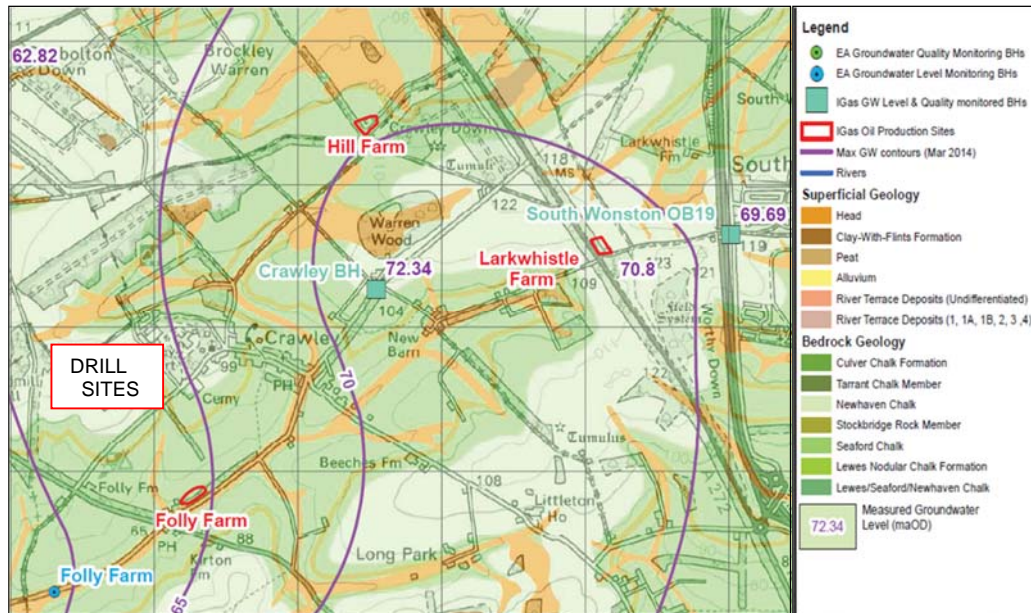
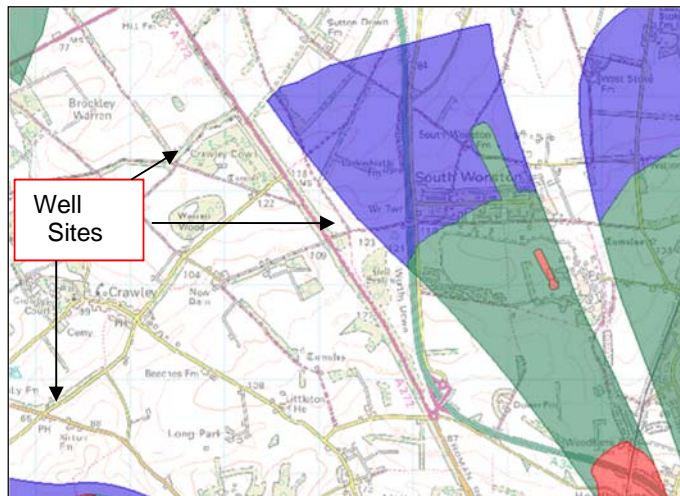


Figure 3: EA groundwater Map



There are two rivers located within 5km of the sites; the River Itchen is located 5 km south east of the Larkwhistle site and the River Dever is located 4.5km northeast of the Larkwhistle site.

The site is in a classified Nitrate Vulnerable Zone.

There is one existing groundwater abstractions for general and process washing in place at the Hill Farm Site. There is no intention to abstract water from or discharge water to any water course lying adjacent to the site. All ditches and field drains in close proximity will be maintained free from obstruction.

3.3 POLLUTION HISTORY

3.3.1 *Pollution incidents that may have affected the land*

There have been no recorded pollution incidents that may have affected the land associated with any of the three sites.

3.3.2 *Historical land uses and possible associated contaminants*

Historical mapping included in the Envirocheck report (Appendix B) indicates that the Hill Farm site has had no historical land-uses associated with potential contamination, prior to their use for oil production.

3.3.3 *Visual and olfactory evidence of existing and historic contamination*

The current land use is as an oil production site, and therefore will remain unaltered.

3.3.4 *Other Potentially Contaminative Industries in surrounding area*

None recognised that are likely to affect the site.

3.3.5 *Evidence of damage to pollution prevention measures*

The well-site is currently underlain by an impermeable geomembrane liner for spillage containment.

3.3.6 *Existing monitoring*

Groundwater monitoring wells present on site are monitored fortnightly for a suite of parameters as required by the sites' Environmental Permit, see Appendix A.

Air quality sampling is currently carried out daily for parameters including Hydrogen Sulphide and Volatile Organic Carbons at 3 locations around the Hill Farm site, as required by the Environmental Permit, see Appendix A.

4 PERMITTED ACTIVITIES

4.1 Activities covered by the permit

The permitted activities to be performed at site will comprise a mining waste operation as defined by the Mining Waste Directive and Schedule 20 of the Environmental Permitting (England and Wales) Regulation 2010, as amended, relating to the management of extractive waste.

4.2 Site layout

The location of the site covered by this permit application, together with the installation boundary and layout, is shown on the following drawings which form Section 7 of the Application:

- Drawing 47074546-EP-01 Site Location
- Drawing 47074546-EP-02b Installation Boundary – Hill Farm
- Drawing IGAS-HFM-SL-01 Rig footprint – Hill Farm

4.3 Non-permitted activities

Non-permitted activities include (but are not limited to):

- car parking for staff vehicles;
- provision of welfare facilities for site staff;
- well maintenance;
- storage and disposal of non-hazardous and hazardous wastes not directly associated with the permitted activities; and

4.4 Environmental risk assessment

An Environmental Risk Assessment has been completed for the sites and is included in the Environmental Impact Assessment (EIA) document (Document STOCK-EPA-004), which forms Section 4 of the Application.

4.5 Environmental monitoring

Monitoring of groundwater boreholes will continue during drilling operations for a suite of parameters that will be agreed with the Environment Agency.

APPENDIX A: EXISTING PERMIT

APPENDIX B: ENVIROCHECK REPORT



APPENDIX C: MAGIC REPORT