

PON 9b

Petroleum Operations Notice No. 9b - Record and sample requirements for onshore geophysical surveys and wells

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INTRODUCTION:

Please read the Notice fully before sending any information, as it contains changes to earlier editions. Operators are obliged to meet the legislative requirements for data required by both DECC and the Natural Environment Research Council (NERC). Copies of all well log data should also be sent to the BGS for distribution to DECC's well data release agents in addition to those sent to UKOGL.

DECC: The [model clauses](#) attached to all licences require operators to retain all the data collected in the course of their operations and to send any or all of this data to DECC as required. This Notice details DECC's current data requirements and therefore applies to all onshore geophysical surveys and all onshore exploration, appraisal, and development wells.

NERC: [The Mining Industry Act 1926](#) (section 23) as modified by the [Petroleum Act 1998](#) (section 1) requires Onshore Licensees to give prior notification to the Natural Environment Research Council (NERC) through the British Geological Survey (BGS) of their intention to undertake drilling.

This document contains a summary of requirements, the destination for records and samples, and the timeframe within which the items should be sent, together with relevant addresses and details of the process for the release of onshore.

All well operation notifications are now managed using the WONS system. WONS is available through the Oil Portal (www.og.decc.gov.uk/portal.htm). To request portal access, contact the help desk on 0300 068 5793 (ukop@decc.gsi.gov.uk)

Other information required to control onshore operations is the subject of the following Petroleum Operations Notices and Guidance Notes:

Petroleum Reporting is now handled under the [PPRS 2000 system](#)

PON12 - [DECC well numbering system](#)

PON14b - [Notification of onshore seismic survey](#)

GEOPHYSICAL DATA:

Proposed geophysical surveys

Operators must advise DECC and any other parties specified in the licence conditions of all proposed geophysical surveys 28 days before the survey is commenced. The PON 14b form must be used, and the same form used again to report on completion of the survey. In an area known to have coal potential the operator must also, in addition to any planning conditions, consult the Coal Authority before commencing any survey.

Seismic data

The UK Onshore Geophysical Library (UKOGL) manages the archiving and release of onshore seismic data for DECC. All operators are now required to archive seismic data with UKOGL as soon as it has been acquired. The data will be kept confidential

until it is released. For the purpose of data release, the start of the confidentiality period is deemed to be the end of the calendar year when data acquisition was completed for seismic data. For data acquired under onshore licences awarded up to and including the 11th round (up to and including PEDL132) the confidentiality period is 5 years. For data acquired under later onshore licences (from PEDL133 on) the confidentiality period is 4 years. Archiving with UKOGL absolves an operator from his statutory duty to store such data. The following are the recommended practices for data to be sent to UKOGL.

Location data: Navigation data in UKOOA format for CDP locations, shot/VP locations and geophone locations.

Digital field data: Original field format tapes together with one demultiplexed version of the field data in SEG-Y format (original sample rate and record length to be retained and demultiplexed data to be unfiltered and not edited). Test records to be retained.

Paper acquisition data: all paper data for each line should be stored together and an index provided of the data available e.g. observer's reports, statics, omissions, LVLs, line intersections etc.

Stack data: Digital versions in SEG-Y for all final stacks and migrations.

Reprocessed data: Digital versions in SEG-Y for all reprocessed stacks and migrations. All reprocessed navigation data in UKOOA format as above.

3D data: Archiving of this data is still being addressed by UKOGL. Please contact them for required data formats.

Magnetic, Gravity and other geophysical survey data

This data should be sent ONLY if requested and then within 30 days of the request. The required format/media will be specified with the request.

WELL DATA:

The following is the information required from all wells. Note that these requirements therefore also apply to all shallow "boreholes" drilled as part of an operator's exploration and development activities under a Production Licence including those drilled to test coal seam thickness and gas content, mine water flooding levels etc.

Licensees are reminded that if they wish to make a press release regarding the results of the well, they should send an advance copy to Toni Harvey for information.

Data required before and during the drilling of a well

Operators should use the online Well Operations and Notification System (WONS).

Notification of spud should be sent to the Well Consents Team at the earliest opportunity, but preferably within two hours of spudding. In the case of Exploration and Appraisal wells, this is when the bit has penetrated the ground. For Development wells (or wells where there is a preset casing) the notification of spud should be sent within two hours of drilling out of preset casing (usually 20") with intent to drill to the reservoir target.

Application for consent to suspend a well, where required, should be made as soon as possible after the results of the well are known using the online WONS system.

Where a well is to be abandoned immediately after drilling, application for consent to abandon should be made as soon as possible after the results of the well are known, using the WONS system.

Data required on completion of a well

Logs

Petrophysical logs should be supplied within 4 weeks of completion of the well unless specifically requested earlier. The data must be supplied digitally, preferably on CD or DVD, in an industry standard format i.e. DLIS, LIS, LAS, BIT or API. All data should be clearly labelled with DECC Well Registration Number, well name, tool type and run depth range. This also includes CBL logs, when acquired.

Any reprocessed logs such as dipmeters and true vertical depth logs should be sent as soon as they become available. These should also be supplied digitally on CD or DVD. Again, all data should be clearly labelled with DECC Well Registration Number, well name, tool type and run depth range.

Geological Composite Log

Within six months of completion of any well including abandonment, or suspension after reaching the first potential producing horizon, the following information must be included on a digital composite log (1:500 scale):

The DECC Well Registration Number and well name. The Operator's well number, if different, may be added.

The Composite Log should integrate the geological columnar section with selected petrophysical logs i.e. a lithology indicating log, a porosity log and a resistivity log.

The log should indicate all logging and coring intervals, testing intervals and casing/liner seats and it should carry abbreviated information concerning the geology and testing or shows.

The digital image file can be in TIFF, CGM or PDS format.

Completion report (End of Well Report)

- Within 6 months of the completion of any well including abandonment, or suspension after reaching the first potential producing horizon, a completion

report must be submitted containing the following information (NOT simply a mudlogger's report) digitally in PDF format.

- DECC Well Registration Number, well name and the target reference for the well. Where the operator has its own numbering system on fields the alternative number should be included.
- Status of well - i.e. abandoned, suspended, production, injection or observation.
- Well Chronicle - dates of rig on location, drilling commenced (spud), drilling completed, operations completed and rig off location. Intermediate dates and depths should be included where operations were suspended for any reason prior to end of operations on the well.
- Height of drilling reference point (e.g. KB or RT or RF) above Ordnance Datum (or mean sea level and sea bed together with water depth for "watery areas").
- Location – National Grid coordinates and relevant latitude and longitude for top hole location.
- Total Depth. If there is significant deviation give TVD of total depth together with bottom hole National Grid coordinates with bearing and distance from top hole location.
- Drilling unit.
- Licence number and round with licence operator.
- Table of geological formations encountered giving depths (MD and TVDSS) and thicknesses (apparent and TVTH). A brief geological description, with significant age determinations and structural information (dips and faults, include true stratigraphical thickness if applicable).
- A listing or log of hydrocarbon indications recorded whilst drilling.
- A record of all cores and side wall cores, intervals and recoveries together with stratigraphical core log, conventional poroperm results and any special core analyses including those to determine petrophysical rock parameters.
- A record of all logs taken (see also above) with brief determinations of porosity and water saturations in reservoirs and potential reservoirs.
- The depths (MD and TVDSS) and results of all repeat formation tests performed in the well. State whether psi(a) or psi(g).
- The depths (MD and TVDSS) and results of all drill stem and/or production tests of the well. Include details of intervals, chokes, rates and/or volumes of hydrocarbons and/or water obtained and their gravities together with pressure and temperatures measured with computer extrapolated reservoir pressure and reference depth. Additionally the results of the test should include perforation details of type, size, density of shots and when applicable details of stimulation such as type, volume, rate, pressures.

- The results of chemical and physical analyses of fluids produced by testing or of minerals found in the well. For CBM wells, also the results of core studies of permeability, desorption, adsorption and gas content.
- Drilling history of the well including mud record, chronological report and as an appendix, copies of all drilling reports with the exception of the IADC and other daily reports, clear copies of which should be available on demand to DECC.
- Details of the well's casings/liners and their seat depths including cement volumes, location of cement tops outside the casings and the method of location. Company/contractors cementing reports and records should be submitted as an appendix. Details of all formation integrity tests whether or not immediately below casing seats are required. Information should be supplied as total pressure versus depth indicating either that leak off has been achieved or that it was a simple limit test.
- The kick-off point of a side-tracked or deviated hole. If the deviation data is requested, it should be submitted in digital format.
- If the well is abandoned or suspended details of packers, plugs, casing retrieval and site clean up. A diagram showing all components, cement, perforations and obstructions left in the hole are required.
- If the well is completed details of packers, subsurface chokes; nipples and safety valves; tubing size, grade weight and pipe thread and well head Christmas tree.
- A completion diagram showing components of the completion, casing strings, cement tops, perforations and obstructions left in the hole is required.
- Digital log image files can be in TIFF, CGM or PDS format.

For development wells, the following information concerning the reservoir should appear in the completion report:

- Reservoir unit tops as depths (MD and TVDSS) and thickness (apparent and TVTH).
- Fluid contacts or limits i.e. gas/oil, or oil/water, or gas/water or lowest known occurrences of hydrocarbon fluids as depths (MD and TVDSS).
- Subsea National Grid co-ordinates of reservoir unit tops and fluid contacts.
- Net pay-thickness (MD and TVDSS) for units and total reservoir.
- Reservoir units average porosities and water saturations.

In addition to the completion report, the following data is also required, within one year, for development or EWT wells, digitally.

- Results of any significant chemical and physical analysis of petroleum including PVT analyses, water or minerals found in the well or injected into the formation subsequent to well completion report.

- Results of any significant physical analysis carried out on rock samples or fluid from the well including special analyses to determine matrix or fluid parameters subsequent to well completion report.
- Results of any significant tests on production, injection and observation wells including downhole formation pressure and temperature surveys carried out, and also including time, pressure and flow listings of draw down and build-up surveys subsequent to well completion report.
- Any measurements relating to well-head to down-hole pressures (static or flowing) should be reported.
- Details of any changes in perforations or completion hardware or any further operations to stimulate or inject fluids. The TVD or drilled depth of flowing perforation intervals should be reported.
- Details of any other significant changes to the well.
- This data should also be supplied digitally in a TIFF, CGM or PDS format.

Shale gas exploration frac report

For Shale gas exploration wells, a hydraulic fracturing report is also required, within one year, digitally, as described in the UKOOG shale gas exploration guidelines:

1. Geological information including the depth(s) of the top and the bottom of the formation into which well fracturing fluids are to be injected.
2. A detailed post-fracture job report, including:
 - Actual total volume of fluids used.
 - Actual surface and downhole treating pressure range.
 - Maximum injection treating pressure.
 - The actual or calculated fracture length and fracture height.
 - Annuli and offset well pressure monitoring results.
 - Confirmation that wellbore integrity was maintained throughout the operation.
 - Testing and flow-back results.
 - Any seismic events that have been recorded including any steps taken as a result of recording such events (for example in accordance with the traffic light system).

Well velocity information

- The results of any velocity surveys and vertical seismic profiling including velocity logs, VSPs and synthetic seismograms, within two months, supplied digitally in a TIFF, CGM or PDS format.

Samples requirements

Cuttings samples - representative, washed and dried samples, depth labelled, collected whilst drilling the well at selected intervals. Wherever possible each sample should be at least 100g weight. The collection of cuttings samples in the top hole section of development wells drilled from a single surface location may be waived following discussions with DECC.

Slabbed cores - from all cores taken as a continuous vertical section comprising at least a width of the core, which will allow standard poroperm plugs to be taken. Any operator wishing to dispose of any other core material after the expiry of five years should inform Toni Harvey via email giving six months notice in order that their preservation may be arranged if required.

Oil samples – these are no longer required. However, a representative sample of stock tank oil should be retained for 5 years. After this period, any operator considering the disposal of any hydrocarbon fluid samples from discoveries made before the issue of this notice should contact Toni Harvey to discuss the proposed disposal. A basic sample analysis will be required before any sample is disposed of.

Samples from the sea bed (for "watery areas")

Portions of sea bed samples and/or cores from boreholes penetrating below the sea bed are required.

Raw data from subsampling released wells is held confidential for 2 years from the date of subsampling, and thereafter BGS will distribute it following NERC data release policy. Interpretative reports are held confidential for 5 years.

THE DATA RELEASE PROCESS

Well data

DECC now requires onshore well data to be submitted in digital rather than hard copy format. Data will be requested by BGS following abandonment, suspension or completion of a well. One copy of the data should be sent to BGS (* see below) and another to UKOGL. The data will be stored for the confidentiality period specified under the terms of the licence under which the data was acquired. At the end of the confidentiality period, DECC's Data Release Agents will release the data according to the terms of their agreement with DECC.

If the data is deemed to be complete, the operator will be notified that he is released from his obligations under the terms of the licence to retain it or provide it.

* Section 23 of the Mining Industry Act 1926 requires onshore well data to be sent to BGS who will maintain the data and observe the confidentiality period specified by DECC. Well records and data supplied under this provision are Public Records and

the Science and Technology Act 1965 places a duty on BGS to disseminate (subject to confidentiality restrictions) its knowledge in the earth sciences.

Seismic data

The release of onshore seismic data is through the UK Onshore Geophysical Library (www.ukogl.org.uk).

PON9b Data Summary Table

Data Type	Send data to:	Timeframe
Notification of Seismic Surveys (PON14b)	Toni Harvey - DECC & UKOGL	28 days prior to survey
Seismic Data	UKOGL	As soon as possible once data has been acquired
Magnetic, Gravity & other Geophysical Data	Toni Harvey - DECC	Only if requested, within 30 days of request
Application for Consent to Drill	Well Consents Team using WONS	Minimum 21 days prior to drilling
Notification of Spud	Well Consents Team using WONS	Earliest opportunity (within 2 hours where possible)
Well Summary	Well Consents Team using WONS	Prior to Completion, Suspension, or Abandonment of a well
Petrophysical Logs	UKOGL & BGS	Within 4 weeks of completion
Completion Report	UKOGL & BGS	Within 6 months of completion
Composite Log (digital copy)	UKOGL & BGS	Within 6 months of completion
Well Velocity Information	UKOGL & BGS	Within 2 months of completion
Reservoir Information (Development Wells)	UKOGL & BGS	Within 2 months of completion
Shale Gas Exploration Frac report	UKOGL & BGS	Within one year of completion
EWT or Development well test report	UKOGL & BGS	Within one year of completion

Cuttings, Cores & sea bed samples	BGS Keyworth	Within 6 months of completion
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CONTACTS

Any enquiries regarding this Notice should be addressed to:

Toni Harvey
Senior Geoscientist
Department of Energy and Climate Change
3 Whitehall Place, 3rd Floor
Tel: 0300 068 6037
Email: toni.harvey@decc.gsi.gov.uk

The Well Operations and Notification System (WONS) is available through the Oil Portal (www.og.decc.gov.uk/portal.htm).

To request portal access, contact the help desk on 0300 068 5793 (ukop@decc.gsi.gov.uk).

Phil Harrison
Senior Geoscience Data Manager – WONS support
Department of Energy and Climate Change
3 Whitehall Place, 3rd Floor Area B
London SW1A 2AW
Tel: 0300 068 6036
Email: phil.harrison@decc.gsi.gov.uk or wons@decc.gsi.gov.uk

Well data should be sent to:

United Kingdom Onshore Geophysical Library
c/o Lynx Information Systems Ltd.
93-99 Upper Richmond Road
Putney, London SW15 2TG
Tel. 020 8780 2634
Fax. 020 8780 0931
Email: contact@ukogf.org.uk

and

The Data Collection Officer
National Geological Records Centre
British Geological Survey
Keyworth, Nottingham NG12 5GG
Email: geodata@bgs.ac.uk or the Records Centre ngrc@bgs.ac.uk

Cuttings and cores should be sent to:

British Geologic Survey Core Store
Kingsley Dunham Centre
Nicker Hill, Keyworth
Nottingham NG12 5GG
Tel. 0115 936 3100
Fax. 0115 936 3200
Email: jrag@bgs.ac.uk

Seismic data should be sent to:

United Kingdom Onshore Geophysical Library
c/o Lynx Information Systems Ltd.
93-99 Upper Richmond Road
London SW15 2TG
Tel. 020 8780 2634
Fax. 020 8780 0931
Email: contact@ukogf.org.uk

Well Data Release Agents

IHS (attn Richard Longhurst)
Enterprise House, Cirencester Road
Tetbury, Gloucestershire GL8 8RX
Tel: 01666 501822 (Direct Line)
Tel: 01666 501200 (Switchboard)

Fax: 01666 501280

Email: richard.longhurst@ihs.com

Fugro Data Solutions (attn Donna Williams)

Maelgwn House

Parc Caer Seion

Conwy

LL32 8FA

Tel: 01492 5645001

Fax: 01492 564545

Email: NWEdataeam@fugro-data.com or donna.williams@fugro-data.com

TGS (attn Caroline Deighton)

Millbank House

171-185 Ewell Road

Surbiton

Surrey

KT6 6AP

Tel: 020 8339 4200

Fax: 020 8339 4249

Email: caroline.deighton@tgs.com

NuTech Energy Alliance (attn Chris Hughes)

Abbey Business Centre

Wellington Way

Brooklands Business Park

Weybridge, Surrey KT13 0TT

Tel: 01932 268625

Email: cjhughes@nutechenergy.com

ANNUAL LICENCE RETURNS

There is at present no requirement to submit an annual licence return in respect of onshore licences.

Field Code Changed