

Reports and data

1. Record and sample requirements

The OGA is committed to making information publicly available as soon as is reasonable. Under current regulations, the data specified in the **PON9b** is usually available for release once a period of confidentiality has passed (3-5 years, depending on the licence, except for geologic and operational information relating to the hydraulic fracturing a well, which must be supplied within three months). The OGA holds the right to access, inspect and take copies of any materials kept by the Licensee in connection with the licence. The same applies to access to and inspections of installations and equipment used in relation to searching, boring for or getting petroleum within the licensed area.

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 OGA and the Natural Environment Research Council (NERC). Copies of all well log data should also be sent to the British Geological Survey (BGS) for distribution to OGA's well data release agents in addition to those sent to UKOGL.

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

[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.

2. Proposed geophysical surveys

Operators must advise OGA 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.

3. Seismic data

The UK Onshore Geophysical Library (UKOGL) manages the archiving and release of onshore seismic data for OGA. All operators are now required to archive seismic data with UKOGL as soon as it has been acquired. The location of newly acquired data will be made public on the UKOGL website when survey is finished.

The new data will be kept confidential until it is released, except for the map location of the data acquired which will be posted on the UKOGL website. 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. For Exploration Licences (XL) the confidentiality period is 3 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.

4. Location data

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

5. 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.

6. Paper acquisition data

All paper or digital operational 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.

7. Stack data

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

8. Reprocessed data

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

9. 3D data

Archiving of this data is still being addressed by UKOGL. Contact them for required data formats.

10. 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.

11. 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 a copy to the onshore team (onshore@ogauthority.co.uk) for information.

12. Data required on completion of a well

Logs

Petrophysical logs including CBL and Image Logs, if acquired, 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. Associated digital image files of the log data should also be supplied in industry standard image format, such as TIF, JPG, CGM or PDS. All data should be clearly labelled with OGA Well Registration Number, well name, tool type and run depth range.

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 OGA 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 OGA 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.

13. Data associated with hydraulic fracturing following consent to a Hydraulic Fracture Plan (HFP)

Within three months of the end of hydraulic fracturing a well, the geologic and operational data must first be submitted to OGA and updated in three month intervals until the end of an extended well test. Micro-seismic data acquired for use in the Traffic Light System (TLS) to mitigate frac-induced seismicity and data acquired to measure the fracture growth height must be submitted to the BGS.

Also like any EWT, the monthly PPRS reporting is required.

The HFP report required (in .pdf format) should include:

- operations summary including result of well integrity monitoring
- well diagram with perf stages
- deviation survey
- wireline log images of zones
- gas chromatograph
- core intervals
- mineralogy from cuttings
- summary of stress interpretation
- location of frac stages posted on seismic display
- visualisation of fracture extent on micro-seismic and/or optical fibre data
- plot containment within permitted boundary
- comparison of modelled vs actual Stimulated Reservoir Volume
- summary of Traffic Light System seismicity monitoring and actions taken
- injection/flowback volume plotted vs induced seismicity over time
- summary of key learnings

Digital file (in .xls format) should include the following profile data over time:

- Bottom Hole pressure
- Injection rate
- Well Head pressure
- Proppant concentration
- Injection volume
- Flowback volume

Within 30 days of completion of hydraulic fracturing, a Hydraulic Fracturing Operations Report containing data in respect of the geology, operations or results associated with hydraulic fracturing of shale or other strata encased in shale must be submitted to the OGA, and followed by updated reports, in three month intervals from the commencement of the test and until the end of testing operations. These reports are to be provided within 30 days of the period reported upon, and the OGA shall be entitled to publish these reports after the expiration of the period of six months beginning with the date when the report was due to be supplied to the OGA, or if earlier, the date when the OGA received the report.

14. 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.
- OGA 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 Ordinance Datum
- 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 OGA.
- 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 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 be included 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 (in a TIFF, CGM or PDS format).

- 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.

15. 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.

16. 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 OGA.

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 the onshore team (onshore@ogauthority.co.uk) giving six months' notice in order that their preservation may be arranged if required.

Oil samples 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 the onshore team to discuss the proposed disposal. A basic sample analysis will be required before any sample is disposed of.

Samples from the sea bed (note some onshore licences include "watery areas" that have sea bed)

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

Raw data from subsampling released wells will be held confidential for 2 years and interpretative reports for 5 years from the date of sampling. Thereafter copies may be obtained from BGS, subject to the usual procedures for the supply of data.

It will not normally be permitted for a second company to duplicate an analysis at previously sampled horizons. Any subsequent applicant will be expected to sample above or below previous samplers. Where a subsequent applicant has a strong scientific case to duplicate a previously sampled horizon, they may apply to OGA for authorisation to contact the original sampler, who shall then make the basic analytical results available, either freely after 6 months from the date when they received the analytical results, or at a proportion of the analytical costs, not exceeding 50%, before 6 months from the date when they received the analytical results.

17. Licence Relinquishment Reports

Upon relinquishing or partially relinquishing a licence, the licence operator is required to send the OGA a Relinquishment Report within three months of the licence being relinquished, and these reports are made available in the public domain on UKOGL under [Industry Activity Reports](#). Relinquishment reports should be sent to the onshore team (onshore@ogauthority.co.uk)

This report should contain a full summary of the work carried out on the Licence, including descriptions of any newly acquired seismic and reprocessed data, any studies and the results from these and an account of the prospectivity for the relinquished area. Copies of reprocessed seismic data should be made available to [UKOGL](#).

If production has ceased on a field, the operator should document, within the relinquishment report, the basis of their decision to cease production and provide an estimate of the remaining recoverable resources.

17.1 Relinquishment Report Guidelines

The relinquishment report should include the following information:

1. Licence Information

- Licence Number
- Licence Round
- Block Number(s)

Also provide, in this section, a statement to say that all permissions to publish have been obtained.

2. Licence Synopsis

- Licence Status (e.g. end of Initial Term, other reasons for relinquishment)

Include a summary of the award and participants, the work obligations (depending on the Term of the Licence) and any licence extensions agreed.

Outline the prospectivity identified at the time of application and whether any undeveloped discoveries were analysed.

If Production ceased under the licence, detail Cessation of Production information is required (see Cessation of Production ([COP](#)) guidance with Field Development Plan).

3. Work Programme Summary

If the Licence was in the Initial Term, specify the exact Work Programme agreed for the Licence, and what was undertaken.

If the Work Programme included reprocessing of seismic data, give clear seismic examples of pre- and post- processing as figures, and describe where there were any noticeable uplifts in the seismic data. Similarly, for new seismic data acquired and interpreted, give clear seismic comparison examples of older and newly acquired seismic data as figures. Specify whether the data was of sufficient quality to address the geology of the block(s). Where there were new wells drilled on the licence, give brief details of the results.

4. Database

The report should include a map of the seismic and well database utilised in the evaluation of prospectivity and/or discoveries.

5. Prospectivity Update

Provide a brief review of prospectivity presented in the original licence application and a more detailed review of prospectivity following any reprocessing/new seismic data/etc. This should include structure maps and examples of the seismic interpretation. If any drilling has taken place, show examples of the revised or new interpretation/mapping incorporating the well results.

6. Further Technical Work Undertaken

Give a summary of any further detailed technical analysis or studies undertaken to derisk the prospectivity on the licence. This may include, for example, inversion, rock physics, AVO, spectral decomposition, more detailed well analysis, etc.

7. Resource and Risk Summary

Include a summary table of recoverable resources associated with the remaining undrilled prospects and leads. An example is shown below:

| Resource and Risk Summary | | | | | | | | | | |
|---------------------------------|-----|------------------------|--------------------------------|---------|------|-----------|---------|------|--|----------------------|
| Prospect Lead Discovery Name | PLD | Stratigraphic Level | Unrisked Recoverable Resources | | | | | | Geological Chance of Success (%) | Risky P50 (MMboe) |
| | | | Oil (MMbbls) | | | Gas (BCF) | | | | |
| | | | Low | Central | High | Low | Central | High | | |
| Venus | P | Paleocene | 4 | 6 | 10 | 90 | 130 | 160 | 22 | |
| Pluto | P | Namurian | 5 | 11 | 21 | | | | 17 | |
| Mars | L | Cretaceous | 3 | 17 | 33 | | | | 12 | |
| Earth | D | Jurassic | 5 | 7 | 9 | | | | 100 | |

8. Conclusions

Comment on any remaining potential prospectivity on the licence and the reason for relinquishment.

9. Clearance

It is important that the submitting operator confirms, within the Report, that the OGA is free to publish the Report and that all 3rd party ownership rights (on any contained data and/or interpretations) have been considered and appropriately cleared for publication purposes.

The OGA will only consider withholding publication of the report until after the next licensing round on a clear request in the covering email from the operator.

10. Maps and Figures

As a minimum, provide a Location Plat, a Structure Map (which can be cut and pasted into the text) at an appropriate scale (but which must cover sufficient National Grid coordinates to enable geo-referencing of the prospects within the Licence) on appropriate horizon(s), illustrative seismic sections and illustrative geoseismic cross-section(s).

18. The data release process

Well data

OGA requires onshore well data to be submitted in digital rather than hard copy format. One copy of the data should be sent to BGS* and another to UKOGL (see contacts below). These 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, OGA's Data Release Agents will release the data according to the terms of their contract with OGA.

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 OGA. 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).

19. Data Summary Table

| Data Type | Send data to: | Timeframe |
|---|-------------------------------|---|
| Notification of Seismic Surveys (PON14b) | OGA and UKOGL | 28 days prior to survey, and upon completion of survey |
| Seismic Data | UKOGL | As soon as possible once data has been acquired |
| Magnetic Gravity & Other Geophysical Data | UKOGL | As soon as possible once data has been acquired |
| Application for Consent to Drill | WONS | Minimum 21 days prior to drilling |
| Notification of Spud | WONS | Earliest opportunity (within 2 hours where possible) |
| Well Summary | 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 | OGA, UKOGL & BGS | Within three months |
| EWT or Development well test report | OGA, UKOGL & BGS | Within three months |
| Cuttings, Cores & sea bed samples | BGS Keyworth | Within 6 months of completion |