



NORWEGIAN PETROLEUM
DIRECTORATE

Guidelines for interpreted data

Published	Revised
March 25 th 2022	February 1 st 2023
Prepared by	
the Norwegian Petroleum Directorate	
Contact information	Contact
E-mail: postboks@npd.no Telephone: +47 51 87 60 00 Address: P.O. Box 600, 4003 Stavanger Street address: Professor Olav Hanssens vei 10, 4003 Stavanger	Kristine Raunehaug

Table of Contents

- 1 Introduction 1**
- 2 The relationship between the reporting obligation, the public information principle and confidentiality 1**
- 3 Section 85 of the PR and Section 11-20 of the SR in more detail – duration of confidentiality ... 2**
- 4 Interpreted data 2**
 - 4.1 Definition of the term "interpreted data" 3
 - 4.2 Delimitation with "non-interpreted data" 3
 - 4.3 Delimitation in relation to trade secrets pursuant to Section 13 (1) (2) of the PAA 5
- 5 Applying the definition 5**
 - 5.1 Well data 5
 - 5.2 Geophysical data 6
 - 5.3 Data types that are not currently subject to reporting requirements..... 6
- 6 Responsibilities and scope 6**

1 Introduction

Pursuant to the Petroleum Regulations (PR) and the Resource Management Regulations (RMR), licensees in a production licence or an exploration licence have the duty to report a wide variety of data to the authorities. Equivalent reporting obligations apply for licensees in permits pursuant to the Regulation relating to storage and transport of CO₂ on the continental shelf (SR) and Regulation relating to documentation in connection with storage of CO₂ on the continental shelf (DSR). Data submitted to the authorities is confidential for a specific period of time as stipulated in Section 85 of the PR and Section 11-20 of the SR.

Section 85 of the PR and Section 11-20 of the SR stipulate the period of confidentiality for information on geological, reservoir engineering and production/injection aspects. Whether the submitted data are interpreted or not determines the duration of the confidentiality. As regards interpreted data, the confidentiality lasts 5 years pursuant to Section 85 of the PR, while for non-interpreted data, the obligation lasts for 2 or 10 years, depending on certain conditions, counting from when the data became available to the data owner. Pursuant to Section 11-20 of the SR, the confidentiality period of interpreted data is 20 years, while for non-interpreted data the obligation is for 2, 5 and 10 years, counting from when the data became available to the owner.

The term 'interpreted data' is not defined in the regulations, and the basis for what is characterised as 'interpreted data' can be unclear. The objective of these guidelines is to define which data qualifies as interpreted data. A definition of the term will help ensure that data can be reported in an efficient and correct manner; as well as clarify the duration of the confidentiality period for the reported data in advance.

The definition of interpreted data is reflected in the Norwegian Petroleum Directorate's (the NPD's) guidelines for reporting well data (Blue Book) and geophysical data (Yellow Book).

The content of the term interpreted data is based on input received in meetings conducted between the authorities and the industry in spring 2021.

2 The relationship between the reporting obligation, the public information principle and confidentiality

Provisions relating to reporting in the petroleum and CO₂ storage regulations impose a duty on the licensees to submit a range of data to the authorities. Data is reported either by submitting the data to the NPD or by making the data available to the NPD in the Diskos database. Diskos acts as the NPD's archive for certain types of data. The data in the Diskos database is generally data from the subsurface on the Norwegian Continental Shelf, and is linked to geological factors, as well as technical reservoir and production/injection factors. These kinds of data are also frequently referred to as "geodata" or "subsurface data".

As a starting point, information received by public authorities is open for access, cf. Section 3 of the Freedom of Information Act (FOIA).

This starting point is modified e.g. by rules concerning the authorities' duty of confidentiality as regulated in Section 13 (1) (2) of the Public Administration Act (PAA). This provision establishes a duty of confidentiality for information concerning "*technical devices and procedures, as well as operational or business matters which for competition reasons it is important to keep secret in the interests of the person whom the information concerns*". This concept is frequently referred to as trade secrets; see also Item 4.3 concerning trade secrets. There is also a specific provision concerning confidentiality in Section 85 of the PR and Section 11-20 of the SR for so-called geodata.

Reported data will therefore not be made available to the public as long as it is protected by the confidentiality rules. The duration of the confidentiality, i.e. how long data received by the authorities will be protected from publication, will depend on the type of data.

3 Section 85 of the PR and Section 11-20 of the SR in more detail – duration of confidentiality

Section 85 of the PR and Section 11-20 of the SR govern the duration of the confidentiality for aspects of geology, reservoir engineering or production/injection engineering in reports or other materials submitted to the public authorities. The duration of the confidentiality for such data is 2, 5, 10 or 20 years, depending on the type of data. Interpreted data must be kept confidential for 5 years pursuant to the PR and 20 years pursuant to the SR. Without this specific provision, geodata would generally be governed by Section 13 of the PAA, and would thus, as a starting point, be subject to confidentiality for 60 years, which otherwise applies for trade secrets.

In addition to stipulating a specific, shorter duration of confidentiality for geodata, Section 85 (5) of the PR and Section 11-20 (5) of the SR establish that the confidentiality lapses after 20 years and 10 years, respectively, for trade secrets pursuant to Section 13 of the PAA. The provision thus governs not only the confidentiality of geodata, it also shortens the confidentiality for petroleum and CO₂ storage-related trade secrets pursuant to the PAA, from 60 years to a maximum of 20/10 years.

Pursuant to Section 85 (4) of the PR and Section 11-20 (4) of the SR, the confidentiality for certain types of data will be discontinued in connection with relinquishment, surrender, lapse or expiration. This includes, pursuant to Section 85 (4) of the PR, interpreted data in status reports, which will thus become public immediately. For other interpreted data owned by licensees in a production license the confidentiality will lapse one year after the license is relinquished, surrendered, lapsed or if the area where the data originates is relinquished.

Upon application, the NPD may shorten or extend the duration of confidentiality, but not beyond a total of 20 years. This follows from Section 85 (4) of the PR and Section 11-20 (4) of the SR. Applications for extension are assessed concretely and may, for example, be relevant for data associated with the development of new exploration plays or in connection with technology development.

4 Interpreted data

The term interpreted data is not defined in the petroleum and CO₂ storage regulations. A definition has therefore been established in these guidelines. The definition was prepared in consultation with the petroleum industry.

4.1 Definition of the term "interpreted data"

The following definition of "interpreted data" is used as a joint term within the petroleum and CO₂ storage activities:

"Interpreted data means products that are the result of a discretionary professional assessment, and which are of sufficient quality to potentially form a basis for decisions in the production licence. Processed geophysical data, measured well data or visualisations thereof are not considered to be interpreted data."

Below follows a more detailed explanation of the specific terms in the definition:

"Products" means "materials and information" about aspects of "geology, reservoir engineering or production/injection engineering", cf. Section 10-4 of the Petroleum Act and Section 85 of the PR, as well as Sections 11-7 and 11-20 of the SR.

"Discretionary professional assessment" means an assessment of multiple alternatives in order to find the best solution, when there are no exact instructions for what is correct. Discretionary assessments will frequently be relevant in areas that are complex and multi-faceted. One characteristic of discretionary assessments is that different professionals or specialist communities will attain different solutions to analogous tasks and challenges.

Data of *"sufficient quality"* means data that has undergone an interdisciplinary and quality-assured process where multiple alternatives have been explored along the way. The crucial point is not whether the data, from a purely factual perspective, has been used as a basis for a decision, but that the data satisfies the qualitative requirements typically set for a basis for decision-making in the production licences.

"Potentially form a basis for decisions in the production licence" means general decisions at the same level as decisions in the "Management Committee" Such decisions are frequently based on recommendations that have been addressed and explored in the other committees in the licence. This assures that the decisions normally will be made on the basis of an interdisciplinary and quality-assured process where multiple alternatives have been explored along the way. The process leading up to the decision will be documented, and the decision will frequently be made by persons other than the professionals that reviewed the basis for the decision.

4.2 Delimitation with "non-interpreted data"

In addition to the positive definition of "interpreted data", one must also *delimit* in relation to other equivalent data. Much of the work undertaken in connection with preparing basic data for interpretation will also require professional insight and discretionary, subjective assessments, without the result of the assessments being considered to be interpretations. This particularly applies towards *"processed geophysical data and measured well data, or a visualisation thereof"*.

Processed geophysical data

The different types of geophysical data are produced through a long-term, resource-intensive process in which a number of assessments and decisions of a subjective, professional nature are carried out, even before the collection starts, and in connection with completing the data. The objective of this process is to produce the best possible imaging of the subsurface. The assessments and decisions of a subjective, professional nature which take place in advance of this are yet not of such a nature that the product can be considered to be interpreted data.

Various components may be extracted during the processing of geophysical data which are used to undertake discretionary assessments that are quality-assured to form the basis for decisions in the production licence. For example, this could be early inversions on CSEM or seismic data. This quality-assured product will be considered to be interpreted data.

Measured well data

To a great extent, well data are fully processed in the measurement probe based on fixed and pre-defined algorithms and may be used directly as a basis for interpretations. They must therefore be considered to be pure measurements of the subsurface and cannot be deemed to be interpretations. The same applies e.g. for evaluations conducted to determine which well depths will be sampled and analysed.

Well logging is carried out by lowering measurement equipment into the well, both during and after drilling. The data acquisition is most extensive at the reservoir level. The measurements and combinations thereof provide indications of both geology and reservoir properties. The actual log (print-out) is typically a diagram where several different measurements are plotted along an axis; the depth of the well. This allows technicians to read the values measured by the different probes for each depth in the well. The collective term "well data" comprises a number of different data types:

- Physical data - core samples, including sidewall cores, cuttings samples and mud samples. Continuous analyses are normally undertaken on e.g. cuttings during drilling, while more extensive analyses of e.g. core samples are carried out later, once the materials have been brought to shore.
- Well logs (measurements) - obtained during drilling ("realtime") and following drilling through log operations after the drill string is pulled out ("wireline"). The data measured during drilling may have an impact on (decisions concerning) continued drilling.
- Well tests (measurements) – e.g. "Drill Stem Test" (DST) – measure the flow rate – determines the reservoir's production properties. Forms the basis for further activity.

Geological formations and reservoir properties are determined based on logs and measurements. This is not considered to be interpreted data until they can form the basis for a decision in the respective licences.

Visualisation of measured well data and processed geophysical data

In order to achieve the best possible imaging and understanding of the subsurface, selected properties and attributes are visualised from processed geophysical data and measured data. These visualisations are considered to be non-interpreted data, just like the data that forms the basis for the visualisation.

Non-reportable digital data types

Technological advances have now made it possible to calculate solutions that previously had to be analysed by experts. Despite the fact that computers have come far in replacing human expertise in the area, results from such routine computer algorithms are not considered to be interpretations. This is the case even if the variables that will be part of the calculations are based on subjective geoscience knowledge.

4.3 Delimitation in relation to trade secrets pursuant to Section 13 (1) (2) of the PAA

The duration of confidentiality is currently 5 and 20 years for petroleum-related interpreted data and trade secrets. As regards CO₂ storage-related data, the duration of confidentiality is 20 years for interpreted data and 10 years for trade secrets, respectively. Due to different confidentiality periods for interpreted data and trade secrets it is important to distinguish between what constitutes interpreted data and trade secrets, as they are defined in Section 13 of the PAA. The authorities cannot shorten the duration of confidentiality for trade secrets in the same way as for interpreted data pursuant to Section 85 of the PR and Section 11-20 of the SR.

Models of the subsurface and direct results from the model will always be interpreted data. The software and any algorithms used to prepare such models may be trade secrets if they are company specific.

While the NPD cannot shorten the statutory confidentiality pursuant to Section 13 of the PAA, the confidentiality for trade secrets may nevertheless lapse if the information no longer satisfies the requirements in Section 13 of the PAA. The status may have changed over time. For example, the information may have been released to other licensees.

In addition to Section 85 of the PR, Section 11-20 of the SR and Section 13 of the PAA, there are a number of special provisions in other regulations which ensure special protection of inventions, artwork, symbols, names, logos, designs and other innovations, so-called intellectual property rights. Intellectual property rights are frequently abbreviated "IPR". It is unlikely that these special rights will provide a basis for confidentiality beyond what follows from the Public Administration Act and the Petroleum Regulations/CO₂ Storage Regulations.

5 Applying the definition

In an effort to demonstrate how the definition of interpreted data will be applied in practice, the NPD has prepared a few examples. For a more extensive overview of well and geophysical data, see [Table A1 in the Blue Book](#) and [Table S1 in the Yellow Book](#).

5.1 Well data

Non-interpreted well data:

- a. Measured data: Measured data are objective observations conducted on physical samples. This is not considered to be an interpretation, as no discretionary professional assessments have been made. Measurements are conducted both digitally and on physical samples. Physical materials are in limited supply, and it is therefore not appropriate to conduct the same analysis multiple times on the same sample. Assessments regarding where or which measurements shall be conducted are not considered to be interpretations.
Example: Data set ID 02.03 Raw Core Analysis (SCAL)
- b. Supplier reports: Such reports are prepared as part of the delivery when measurements are conducted and contain subjective assessments to a greater or lesser extent. The assessments made during the execution of a measurement are not considered to be interpretation, as they are not of sufficient quality to be part of a basis for decision-making without additional processing and discretionary company-specific professional assessments.

Example: Data set ID 06.09 Mud Log Report (End of Well reporting from service companies)

Interpreted well data:

Discretionary professional assessments applied to measurements in order to generate a product that will be part of a basis for decision-making.

Example: Data set ID 02.13 Description Core Analysis Report

5.2 Geophysical data

Non-interpreted geophysical data:

- a. Raw data: Measurements from geophysical receiver equipment, navigation data and other operational data from the survey.

Example: Data set ID 5.1.2.2 Field data - Far Field/Near Field Signature

- b. Processed geophysical data: Data sets that are the result of discretionary professional assessments made in the process to create an intermediate product, but which are not of sufficient quality to be part of a basis for decision-making without additional processing and discretionary company-specific professional assessments.

Example: Data set ID 5.1.6.1 Velocity Data - PSTM|PSDM Velocity products

Interpreted geophysical data:

Interpretations and discretionary professional assessments made on processed data. These frequently constitute the core of geological understanding in a basis for decision-making for a production licence. One example is seismic inversion cubes.

Example: Data set ID 5.1.4.6 Post-stack data – Seismic Inversion Cubes

5.3 Data types that are not currently subject to reporting requirements

Non-interpreted data:

Data sets or parts of data sets generated as the result of a simple application of an algorithm.

Example: Machine-generated curves or partial curves used to fill holes in existing data coverage in a wellbore.

Interpreted data:

Discretionary professional assessments applied to measurements in order to generate a product that can be part of a basis for decision-making in the production licence. Regardless of whether the product is algorithm-based and generated by a machine or was produced by a professional.

Example: Missed pay studies based on machine learning and/or artificial intelligence.

6 Responsibilities and scope

These Guidelines apply for data reported pursuant to the PR, RMR, SR and DSR.

The reporting obligation rests with licensees pursuant to permits issued pursuant to the Petroleum Act and the CO₂ Storage Regulations. Reporting shall take place in accordance with descriptions in

Guidelines for interpreted data

the Blue, Green and Yellow Books¹. The authorities stipulate how this reporting shall take place and which categories of data must be reported. The authorities may, pursuant to Section 86 of the PR and Section 38 of the RMR, as well as Section 11-23 of the SR and Section 32 of the DSR, stipulate the correct reporting category.

¹ The Blue, Green and Yellow Books are the NPD's guidelines for reporting well data, monthly production data and geophysical data, respectively.