

GENERAL SPECIFICATION

Geoinformation

GS EP GIN 309

Indexing and preservation of well logs and well seismics

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Rev.	Date	Purpose of the revision

Owning entity: EXPLO/GTS	Managing entity: EXPLO/GTS/IGR
Other Approving entity(ies):	

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1. Scope

This document defines the requirements for receiving, indexing and preserving the well log and well seismic data.

Its purpose is to guarantee that this type of data is indexed and preserved in a standardized way within E&P headquarters and affiliates.

It is intended for discipline database administrators and data indexing operators, whether they are at headquarters or in affiliates, under contract or external providers of indexing services.

This document concerns well log and well seismic data and illustrations in digital format (see Appendix 1, for more details).

It does not deal with seismic data covered in **GS EP GIN 307**, nor documents attached to a report covered in **GS EP GIN 305**.

2. Reference documents

The reference documents listed below form an integral part of this General Specification.

External Documents

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and addendums, is the latest revision published at the effective date of this document.

Reference	Title
IHS	Information Handling Services
ISO 3166-1	Codes for the representation of names of countries and their subdivisions - Part 1: Country codes - Third Edition

Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and addendums, is the latest revision published.

Reference	Title
GS EP GIN 103	Dematerializing geoscience paper documents
GS EP GIN 305	Indexing of corporate technical documents
GS EP GIN 307	Unique identifier and seismic data indexing

3. Definitions

The following definitions serve for the purposes of this document only.

Activity: set of services performed in a well at a precise date, under specific and verifiable conditions aimed at acquiring, processing/re-processing or interpreting data.

Contractor: company providing a product or service as part of a contract or formal agreement.

Corporate documentary database "Logs": database serving as reference for "paper" logs (paper, film, transparent, etc.) and managed by IGR/DEC/DP at headquarters.

Corporate documentary database "Technical reports and dossiers": database serving as reference for technical reports and dossiers and managed by IGR/DEC/CDT at headquarters.

Database (DB): set of data, generally structured in fields, organized in such a way that it can be used by software programs with specific applications (management, searching, sorting, mapping, etc.). Data is grouped in a structured way and managed by a Database Management System (DBMS) to facilitate the independent upgrading of data and programs.

DB tool: IT application used to manage the reference "Well log and well seismic" database.

Data Operations Manager (DOM): professional in geoscience information and in well log and well seismic data, who ensures the analysis, pre-indexing verification and indexing of data in the DB tool used.

Data Receipt Controller: monitors the receipt of media containing well log and well seismic data.

Digitized data (or vectorized data): data produced by converting one or more pieces of information in image format (e.g. curves of a graphic log or time/depth correspondence) into digital data (LAS or ASCII format, etc.).

«Métier» Database Administrator: professional in geoscience information and in well log and well seismic data, who monitors the reference "Well log and well seismic" database.

Owning entity: entity in an affiliate (division or technical department) or at headquarters (geographical or technical division) that orders, acquires, owns or generates well log and/or well seismic data. By definition, all well log or well seismic data belongs to an owner.

"Well header" reference database: central database, located at headquarters and managed by IGR/DEC/DP.

"Well log and well seismic" reference database: database serving as reference and managed by IGR/DEC/DP at headquarters.

Run Number: chronological number in which a tool or tool string is run in a hole (see Standard Operating Procedures - SOP).

Scanned data: data produced by converting information on paper into digital data in image format. TIFF and JPEG are the main image formats used.

Sender: the entity at headquarters or in an affiliate, in charge of the shipment.

Sequence: set of data generated by a service. The Main Log, the Repeat Section, the different Passes (in static, flowing), etc. are examples of sequences. Several sequences may be stored in a single file.

Service: a tool (e.g. GR, WST, etc.) or tool string (MDT-GR, for example, etc.) that performs measurements in a well during an acquisition activity, or the data processing or interpretation provided by a computing center or entity. A service can generate several sequences.

Temporary database: work zone created to avoid deteriorating the reference "Well log and well seismic" database when quality controlling a "large" dataset (refer § 7.4).

UWI (Unique Well Identifier): Unique Well Identifier used to identify a well and/or its branches and guarantees that it is identified in the same way throughout the different databases.

Well: structure characterized by its surface location (X, Y, Z) or the position of its wellhead, and one or more branches. Each well branch with a starting point in the previous branch is defined by a "branch name" and a "UWI".

Each time the word "well" is used hereafter, it designates the well or well branch.

Well log: is the continuous recording at certain depths and/or over certain periods of a drilling parameter or a given characteristic of the formations penetrated by a well and/or its branches. For more information about well logs, refer to Appendix 1.

Well seismics: is the vibration phenomena caused by a source emitting from the ground or water surface recorded by a receiver inside a well, or the processing of these recordings. For more information about well seismic data and its processing, refer to Appendix 1.

4. Roles and responsibilities

The **Data Receipt Controller:**

- Checks that data received corresponds to the information mentioned in the delivery slip, mailing list, email, etc.
- Ensures that the physical media (CD/DVD-ROMS, hard drives, etc.) are readable.
- Monitors the receipt of data.
- Triggers any action required if the media are non-compliant or unreadable.

Note: this role may be filled by the Data Operations Manager.

The **Data Operations Manager (DOM)** is responsible for:

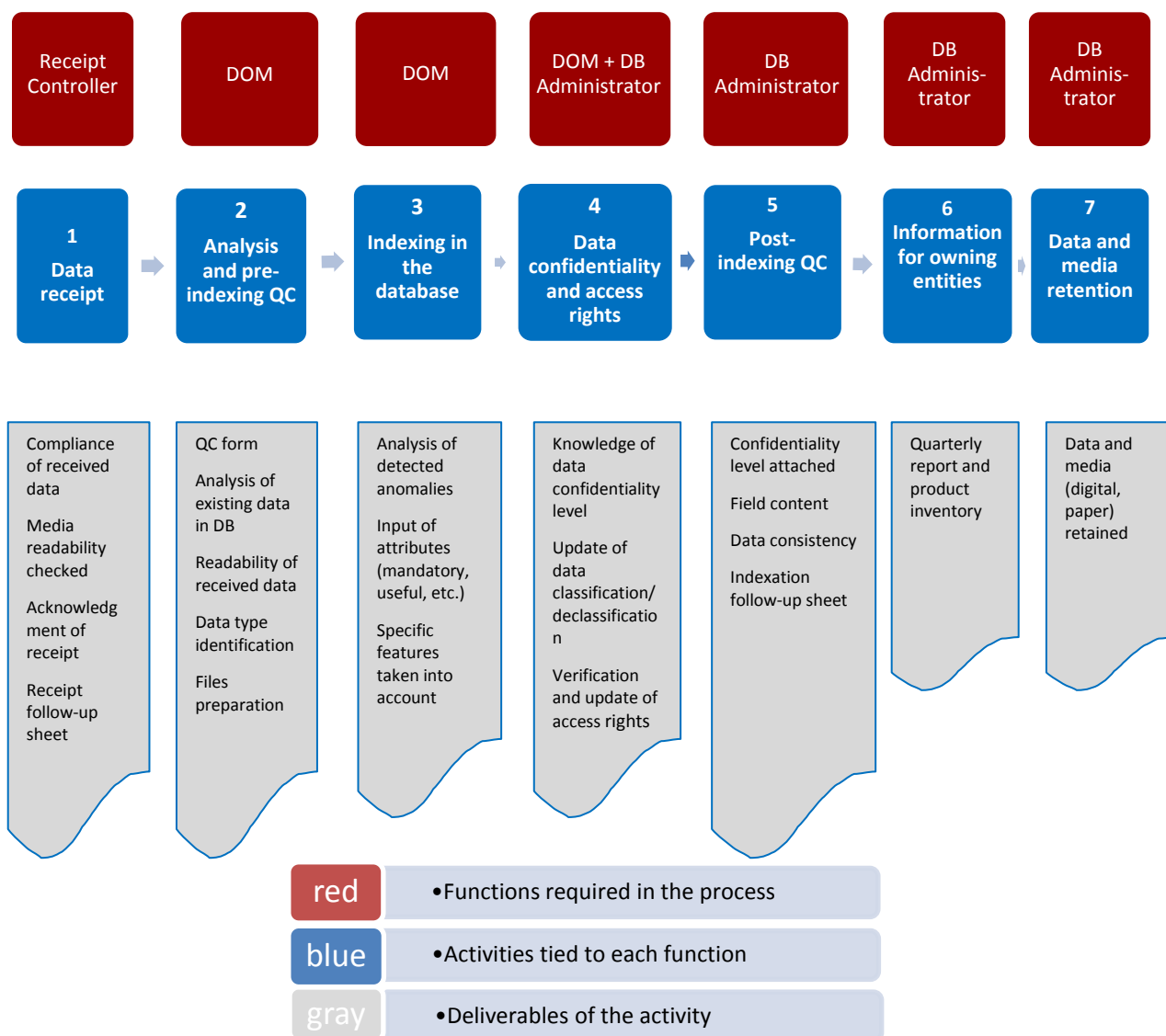
- Checking the compliance of data and information received.
- Analyzing data and verifying its pre-indexing.
- Indexing the data in the database (DB).
- Triggering any action required if the data is non-compliant or unreadable.

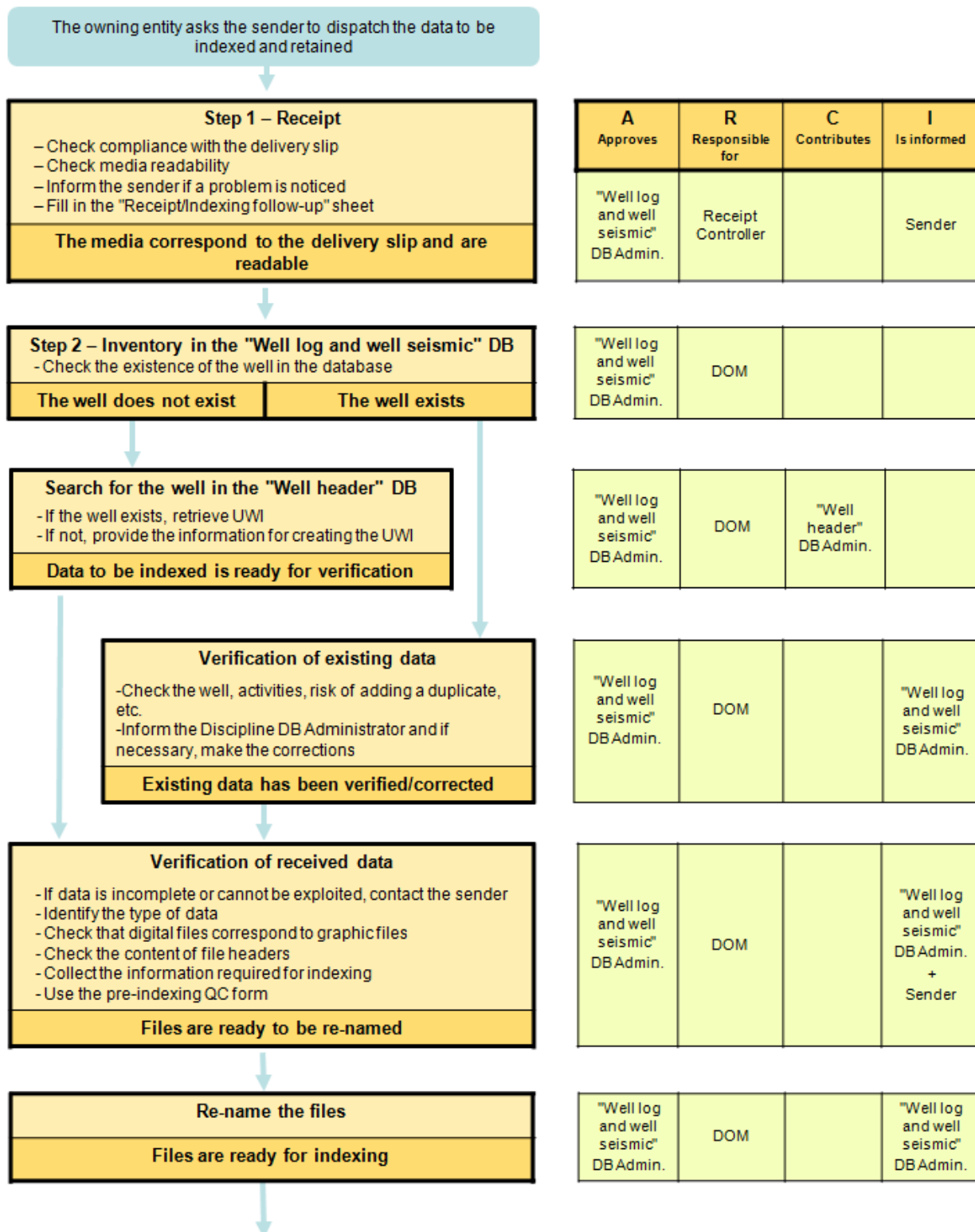
The **«Métier» Database Administrator** is in charge of:

- Checking the indexing performed by the DOM.
- The quality of the DB content.
- Managing data access rights.

Note: In some entities, this role may be filled by the Data Operations Manager.

5. General process for indexing well log and well seismic data



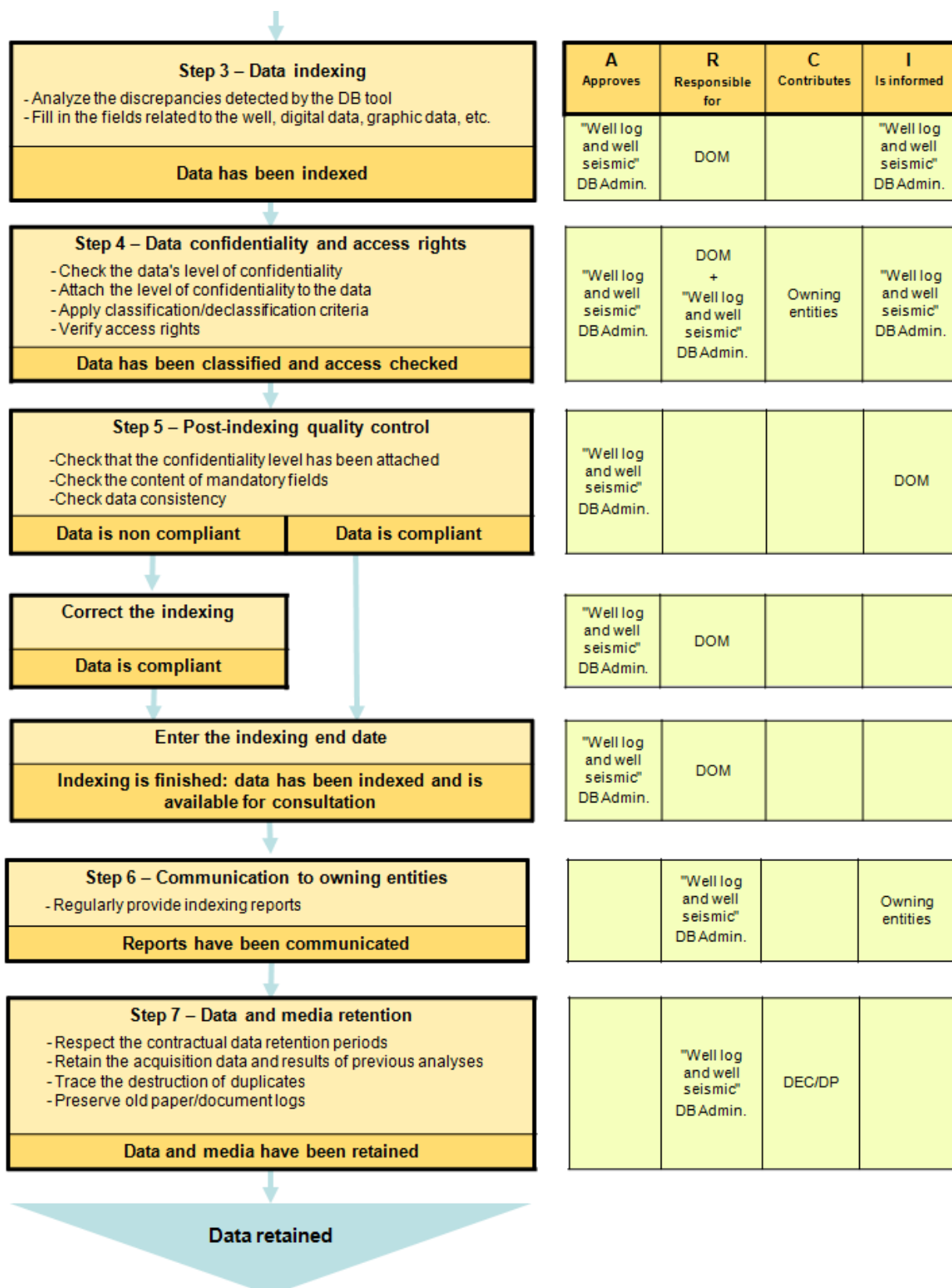


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6. Step 1: Receipt

{Rule 1:

The media Receipt Controller shall report to the sender the results of the receipt verification described below.}

The Receipt Controller:

- Checks that received data corresponds to the information mentioned in the delivery slip, mailing list, email, etc.
- Ensures that the physical media (CD/DVD-ROMS, hard drives, etc.) are readable and contain data.

{Rule 2:

If any discrepancy is found or the medium is not readable, the Receipt Controller shall request a new dispatch from the owning entity.}

The Receipt Controller enters the date of receipt and any useful information in the Receipt/Indexing follow-up table using a follow-up tool (see Appendix 2: Example of a Receipt/Indexing follow-up sheet).

7. Step 2: Data analysis and pre-indexing verification

This step is essential. It is recommended that the DOM fill in the pre-indexing QC (Quality Control) form as work progresses (an example of a "Pre-Indexing Checklist" is presented in Appendix 3).

7.1 Analysis of existing data in database (inventory)

Before indexing any new data, the DOM checks whether the well exists in the "Well log and well seismic" database.

Two cases are possible:

1. The well does not exist in the "Well log and well seismic" database.

The DOM searches for the well in the reference "Well header" database.

- If the well exists in the "Well header" database, the DOM retrieves the well UWI.
- If the well is not recorded in the "Well header" database, s/he provides the information needed to create the UWI – a log header for example –, and asks the "Well header" Database Administrator to create it.

2. The well exists in the "Well log and well seismic" database.

The DOM checks the quality of previous indexing, i.e. that:

- Files are attached to the right well, the right leg.
- Activities (date and type of activity) are correctly recorded.
- Metadata entered complies with the rules applicable at the time of verification.
- Files to be indexed are not already present, to avoid duplication.