



Exploration & Production

GENERAL SPECIFICATION

GEOINFORMATION

GS EP GIN 301

Geographical Information shared data specifications

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1. Scope

1.1 Purpose

This General Specification (GS) defines the shared data management process.

The shared data management process applies to E&P shared Geographic Information within the meaning of the Company Rule on Geographic Information. This document answers the following questions:

- How are E&P shared data identified?
- How are E&P shared data managed?

1.2 Application

This document applies for requests to create, modify or delete E&P shared data.

All shared data managed in the Geoscope application are visible internally but may not be distributed externally.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	



Other documents

Reference	Title
Not applicable	

Total General Specifications

Reference	Title
Not applicable	

3. Terminology

Terminology/Abbreviations	Description
Geographical Information	Point, linear, surface or grid object, defined by its geographical position with respect to the surface of the Earth, in Space and in Time. It can be represented on a plane or a map, or a 3D model, using either its coordinates expressed in planimetric and vertical systems, or its position relative to another object.
Non Geographical Information	Any data whose description does not include a location with respect to the surface of the Earth and whose electronic format can be attributary (table) or documentary (files).
Georeferencing	Action of assigning a geographical position to non geographical information.
Business Geographical Information	Set of geographical or georeferenced information specific to a business. It can either be directly acquired or measured, or result from a processing or interpretation phase.
E&P Shared Geographical Information	Set of geographical or georeferenced information of shared interest in E&P in terms of cross-functionality: sharing, exchange, use and guaranteeing uniqueness. It is a subassembly of all the business geographical information.
Geographical Information System (GIS)	The GIS is a set of components (hardware, software, data, users and methods) intended for the storage, processing, management, analysis and communication of georeferenced information. All this information is generally stored in databases which can also be used to produce representations as drawings and maps.

Terminology/Abbreviations	Description
Geoscope	Application to present and manage the shared data
Enterprise Geographical Information System	The main objectives are broad access to the Enterprise shared geographical data, an infrastructure for management and administration of shared data, economies of scale in the deployment and use of GISs within the enterprise
IS	Information System - Information Technology (IT) Set of hardware and software resources used for storage, processing and transport of data in electronic form.

As basic postulate, 50 layers have been identified in Exploration and Production, as shared data. They are listed in Appendix 1.

These shared data are saved and shared in the Geoscope application.

4. Managing the shared data in E&P

Management of E&P shared data can be broken down into three sub-processes which must be applied strictly:

- Identifying the shared data to be shared in E&P
- Modifying the shared data published in Geoscope
- Deleting Geoscope shared data.

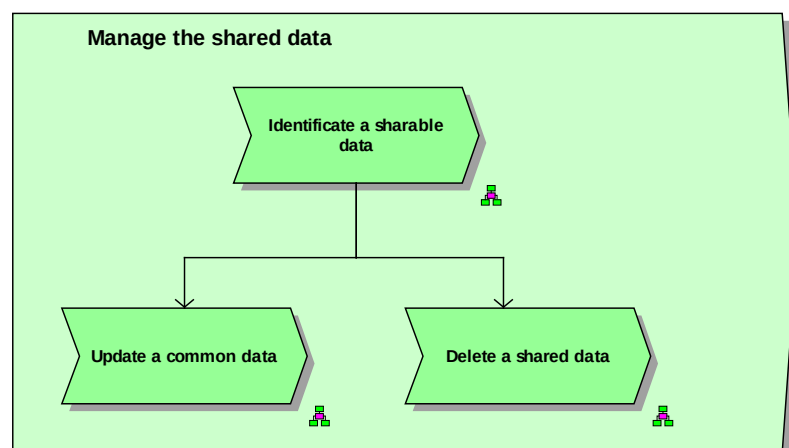


Figure1: Managing the shared data in E&P

The following chapters specify the scope of each of these processes. They define the various individuals involved in each of these activities.

4.1 Identifying the shared data to be shared in E&P

Any E&P statutory member can submit a request for new shared data to the Business Referral Agent who saves the request via Geoscope. The request must transit via an e-mail address provided for this purpose in the application itself in order to filter and centralize collection.

The EP GIS Technical Committee analyzes all requests at least every quarter. The frequency may be adjusted, however, depending on the degree of urgency and the number of requests.

During this analysis, the GIS Technical Committee approves the new data, i.e. it decides whether or not data must be considered as sharable.

If not, the EP GIS Technical Committee must communicate its decision. It informs the requester via the Business Referral Agent, and if necessary specifies the Business that owns/manages the data in E&P.

There are two possible cases: the new shared data identified exists and is already managed by a Business in E&P or this data is not available directly in E&P.

Case 1: the data exists in an E&P Business

The EP GIS Technical Committee informs the requester via the Business Referral Agent who holds the data in E&P that the data is now considered as shared and proposes the data model which will be used to share the data.

It also checks with the Business that the data is of sufficient quality.

Based on this model, the Technical Manager and the E&P Referral Agent define the exchange interfaces required to integrate the data into Geoscope. They therefore define:

- the mode of exchange between the Business database and Geoscope: exchanges may be automatic or manual;
- the exchange format,
- the data update frequency in Geoscope, etc.

Once these elements have been defined, the E&P Shared Geographical Information Referral Agent integrates the new data into Geoscope.

The Business Referral Agent approves the integration.

Case 2: the data does not exist in E&P

The EP GIS Technical Committee can make a suggestion to the Business concerned via the Business Referral Agent that this data should be purchased or created.

This activity presents a risk since there may be a conflict of interest between the requester and the Business which must purchase the data.

This activity presents a resource availability risk.

When integration is carried out and checked by the Business, the Geoscope data integration process defined above is applied.

At the end of each EP GIS Technical Committee meeting, a report is published in Geoscope. This report lists all requests examined by the Committee and the decisions taken in SharePoint format (information in Geoscope).

The shared data identification process is represented as shown below (ARIS diagram).

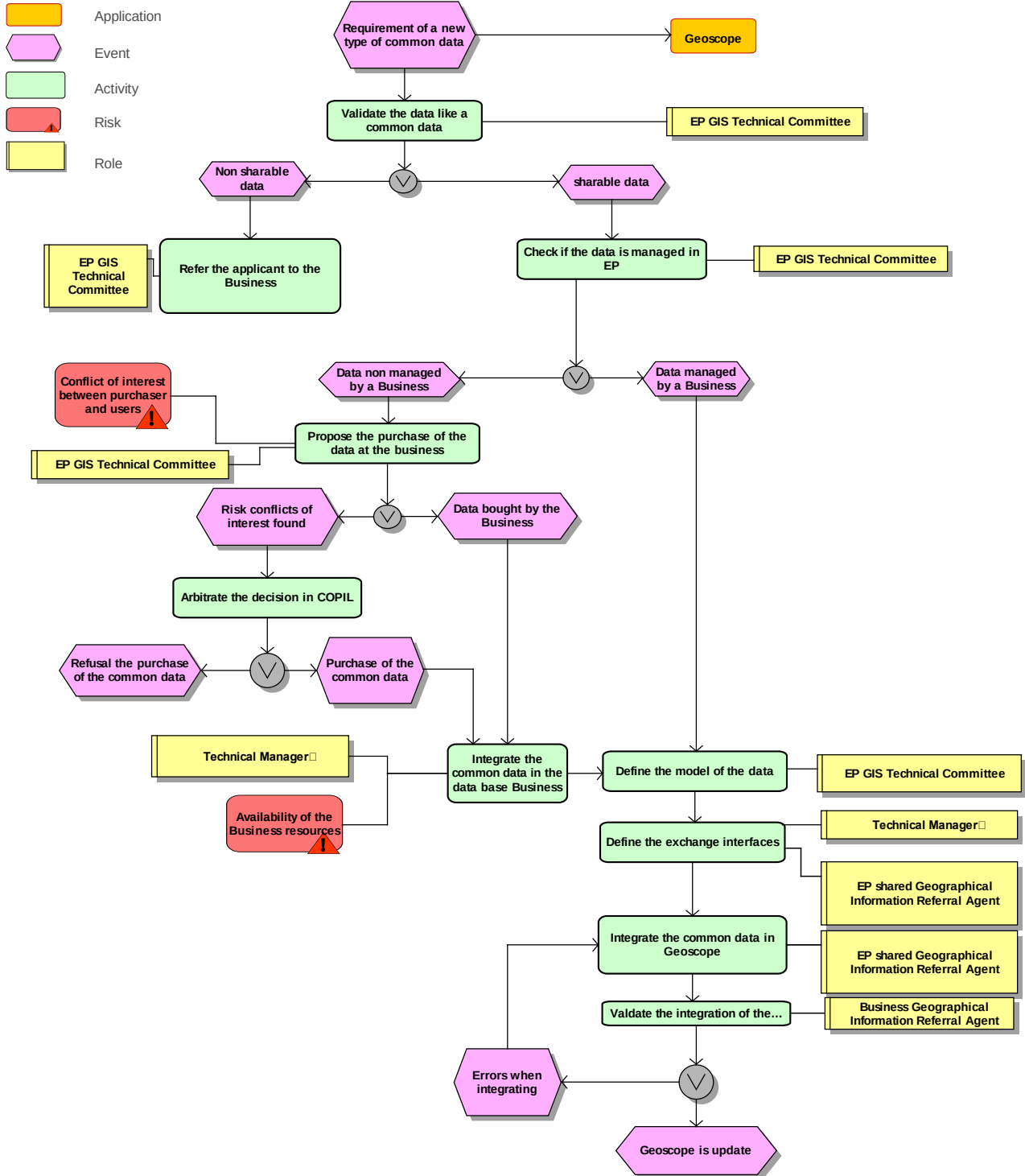


Figure2: E&P shared data identification process

4.2 Modifying Geoscope shared data.

Any E&P statutory member can submit a request to modify shared data managed in Geoscope to the Business Referral Agent who saves it in Geoscope. The request must transit via an e-mail address provided for this purpose in the application itself in order to filter and centralize collection.

The modification request is analyzed during a EP GIS Technical Committee meeting, held at least once every quarter.

The EP GIS Technical Committee communicates its decision, whatever the outcome.

If shared data needs to be modified, the EP GIS Technical Committee modifies the corresponding data model.

The Technical Manager and the E&P Shared Geographical Information Referral Agent modify the exchange interfaces between the Business database and Geoscope to take into account the new data model.

The E&P Shared Geographical Information Referral Agent then integrates the modifications into Geoscope.

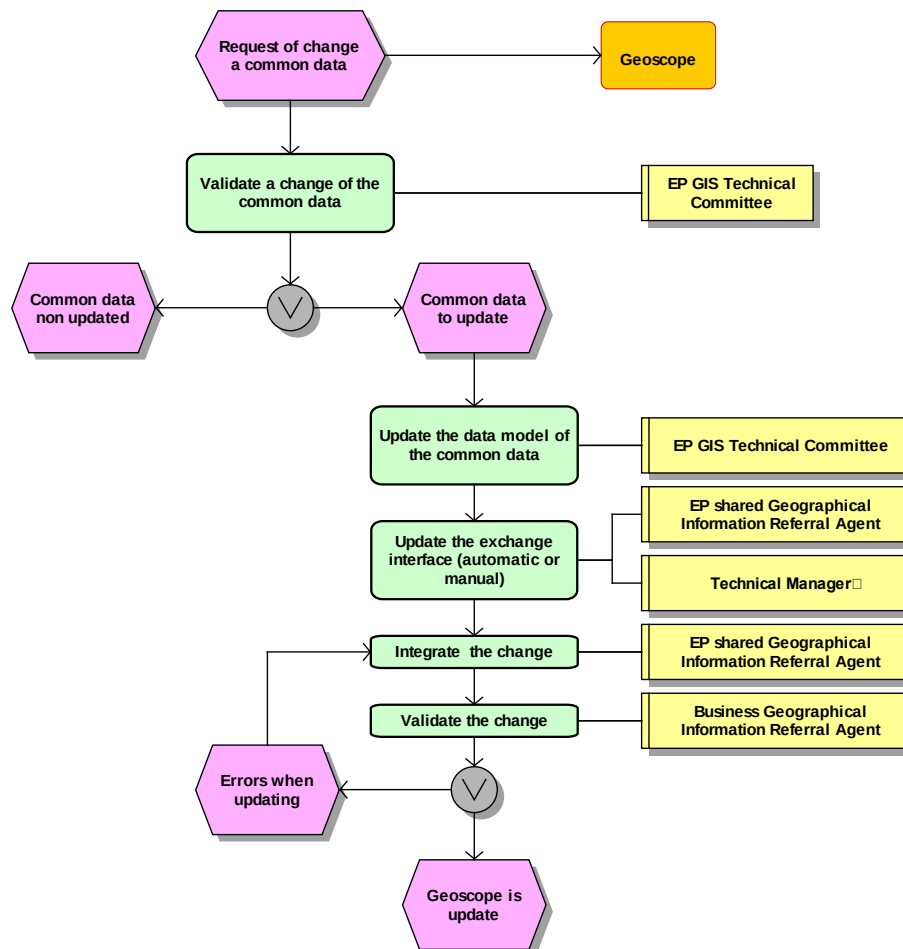


Figure3: Shared data modification process

4.3 Deleting Geoscope shared data.

Any E&P statutory member can submit a request to delete shared data managed in Geoscope to the Business Referral Agent who saves it in Geoscope. The request must transit via an e-mail address provided for this purpose in the application itself in order to filter and centralize collection.

During the quarterly GIS Technical Committee meeting, the Committee analyzes the requests to delete shared data.

Irrespective of the decision, the EP GIS Technical Committee communicates the outcome of the requests.

When data needs to be deleted from Geoscope, the E&P Shared Geographical Information Referral Agent deletes the interface between the Business database and the application.

He then checks that the data has in fact been deleted.

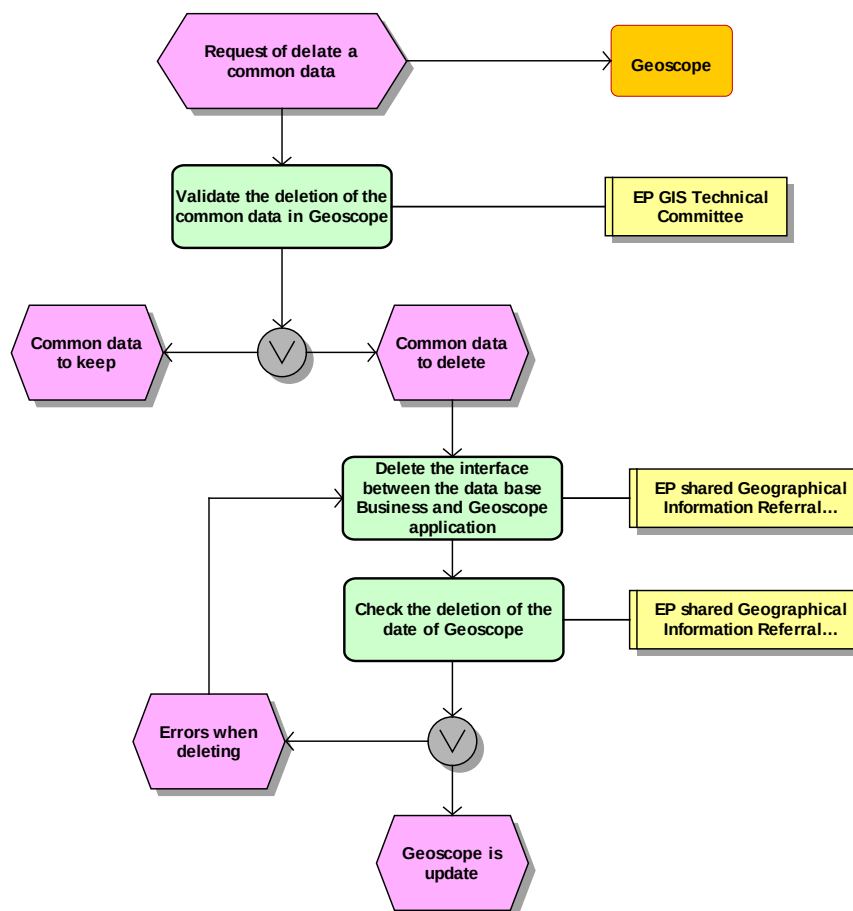


Figure4: Shared data deletion process



Appendix 1 Shared Geographical Information – 6/1/11

This table summarizes the layers currently defined as shared data. Each layer is described briefly by:

- its identifier ID_COUCHE_GISEP,
- its name: LAYER NAME
- its description: OBJECT
- the source(s): SOURCE(S).

The color corresponds to the various E&P domains.

- Orange: SubSurface
- Fuchsia: Environment
- Medium Blue: Cultural
- Light Blue: Surface
- Yellow: Exploration
- Green: Development-Operations

Layers		Comments
ID_COUCHE_GISEP	GISEP_01	
LAYER NAME	SUB_WELLS_IHS	
OBJECT	Well location (all classifications included) with main attributes	Does not include the deviation
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_02	
LAYER NAME	SUB_WELLS_FINDER_GADAMA	
OBJECT	Well location (all classifications included) with main attributes obtained from Finder and Gadama databases	Does not include the deviation
SOURCE(S)	TOTAL FINDER/ GADAMA	
ID_COUCHE_GISEP	GISEP_03	
LAYER NAME	SUB_FIELDS_PT_IHS	
OBJECT	Field marks, all categories included from IHS, shown as points	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_04	
LAYER NAME	SUB_FIELDS_PG_IHS	
OBJECT	Fields, all categories included from IHS, shown as polygons	



Appendix 1

SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_05	
LAYER NAME	SUB_BLOCKS_IHS	
OBJECT	Blocks, all categories included from IHS, shown as polygons	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_06	
LAYER NAME	SUB_BLOCKS_FINDER	
OBJECT	The licenses stored in the FINDER database	
SOURCE(S)	TOTAL FINDER	
ID_COUCHE_GISEP	GISEP_07	
LAYER NAME	SUB_SEISMIC_2D_FINDER	
OBJECT	The 2D seismic lines stored in the FINDER database	
SOURCE(S)	TOTAL FINDER	
ID_COUCHE_GISEP	GISEP_08	
LAYER NAME	SUB_SEISMIC_3D_FINDER	
OBJECT	3D seismic stored in the FINDER database	
SOURCE(S)	SDE	
ID_COUCHE_GISEP	GISEP_09	
LAYER NAME	SUB_BASINS_IHS	
OBJECT	Sedimentary basins and sub-basins from IHS	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_10	
LAYER NAME	ENV_PROTECTED_AREAS_PT_WDPA	
OBJECT	National and international protected areas	
SOURCE(S)	EXTERNAL: WDPA	
ID_COUCHE_GISEP	GISEP_11	
LAYER NAME	ENV_PROTECTED_AREAS_PG_WDPA	
OBJECT	National and international protected areas	
SOURCE(S)	EXTERNAL: WDPA	
ID_COUCHE_GISEP	GISEP_12	
LAYER NAME	CULT_WORLD_MARITIME_BOUNDARIES_VLIZ	



Appendix 1

OBJECT	Definition of maritime boundaries	
SOURCE(S)	EXTERNAL: VLIZ	
ID_COUCHE_GISEP	GISEP_13	
LAYER NAME	CULT_GLOBAL_MARITIME_BOUNDARIES	
OBJECT	Definition of economic zones	
SOURCE(S)	EXTERNAL: GMBD	
ID_COUCHE_GISEP	GISEP_14	
LAYER NAME	CULT_COASTLINES_SRTM	
OBJECT	Coastline	
SOURCE(S)	EXTERNAL SRTM	
ID_COUCHE_GISEP	GISEP_15	
LAYER NAME	CULT_BATHYMETRY_IHS	
OBJECT	World bathymetry	
SOURCE(S)	EXTERNAL: IHS	
ID_COUCHE_GISEP	GISEP_16	
LAYER NAME	CULT_OFFSHORE_BOUNDARIES_IHS	
OBJECT	Country offshore boundaries	
SOURCE(S)	EXTERNAL: IHS	
ID_COUCHE_GISEP	GISEP_17	
LAYER NAME	GOG_TOTAL_AFFILIATES	
OBJECT	Identification of Total affiliates and their equipment in GIS and ELA	
SOURCE(S)	INTERNAL: IGEO	
ID_COUCHE_GISEP	GISEP_18	
LAYER NAME	GOG_GSR_GIS_ACTIVITIES	
OBJECT	GSR GIS envelopes	
SOURCE(S)	INTERNAL: IGEO	
ID_COUCHE_GISEP	GISEP_19	
LAYER NAME	GOG_TDO_GIS_ACTIVITIES	
OBJECT	TDEV and OPS GIS envelopes	
SOURCE(S)	TDO/TEC/GEO	
ID_COUCHE_GISEP	GISEP_20	



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LAYER NAME	SUR_PIPELINES_IHS	
OBJECT	Transit process lines	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_21	
LAYER NAME	SUR_PLATFORMS_IHS	
OBJECT	Platforms	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_22	
ID_COUCHE_GISEP	GISEP_23	
LAYER NAMES	SUR_OFFSHORE_SITES_PT	
OBJECT	Offshore sites	
SOURCE(S)	Affiliates/Tr@ce	
ID_COUCHE_GISEP	GISEP_24	
LAYER NAMES	SUR_ONSHORE_SITES_PT	
OBJECT	Onshore sites	
SOURCE(S)	Affiliates/Tr@ce	
ID_COUCHE_GISEP	GISEP_25	
LAYER NAMES	SUR_ONSHORE_SITES_PG	
OBJECT	Onshore sites	
SOURCE(S)	Affiliates/Tr@ce	
ID_COUCHE_GISEP	GISEP_26	
LAYER NAME	SUR_OFFICES	
OBJECT	Affiliate offices	
SOURCE(S)	Affiliates/Tr@ce	
ID_COUCHE_GISEP	GISEP_27	
LAYER NAME	GEN_SOLAR_SITES	
OBJECT	Solar sites	
SOURCE(S)	GEN	
ID_COUCHE_GISEP	GISEP_28	
LAYER NAME	GEN_STORAGE_SITES	
OBJECT	Storage sites	
SOURCE(S)	GEN	



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ID_COUCHE_GISEP	GISEP_29	
LAYER NAME	METOCEAN_PT_SIGEO	
OBJECT	Location of Metocean studies as points	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_30	
LAYER NAME	METOCEAN_PG_SIGEO	
OBJECT	Location of Metocean studies as polygons	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_31	
LAYER NAME	METOCEAN_PL_SIGEO	
OBJECT	Location of Metocean studies as polylines	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_32	
LAYER NAME	REGIONAL_STUDIES_3D_SIGEO	
OBJECT	Location of 3D DEV-TEC-GEO studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_33	
LAYER NAME	WELL_SITES_ASSESSMENT_3D_SIGEO	
OBJECT	Location of Well Site Assessment studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_34	
LAYER NAME	VARIOUS_PT_SIGEO	
OBJECT	Location of various TDO-TEC-GEO studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_35	
LAYER NAME	VARIOUS_PG_SIGEO	
OBJECT	Location of various DEV-TEC-GEO studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_36	
LAYER NAME	AUTO_GAS_RISKS_SIGEO	
OBJECT	Location of DEV-TEC-GEO GAS Risk studies	
SOURCE(S)	SIGEO	



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SOURCE_TYPE_STOCKAGE	SDE	
ID_COUCHE_GISEP	GISEP_37	
LAYER NAME	SYNTHESIS_GEOPHY_GEOTEC_SIGEO	
OBJECT	Location of geotechnical synthesis studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_38	
LAYER NAME	GEOTECHNICS_SIGEO	
OBJECT	Location of DEV-TEC-GEO geotechnical studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_39	
LAYER NAME	GEOPHYSICS_SIGEO	
OBJECT	Location of DEV-TEC-GEO geophysical studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_40	
LAYER NAME	SEISMICITY_SIGEO	
OBJECT	Location of DEV-TEC-GEO seismicity studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_41	
LAYER NAME	TOPOGRAPHY_SIGEO	
OBJECT	Location of DEV-TEC-GEO topography studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_42	
LAYER NAME	CONSTRUCTION_SIGEO	
OBJECT	Location of DEV-TEC-GEO construction studies	
SOURCE(S)	SIGEO	
ID_COUCHE_GISEP	GISEP_43	
LAYER NAME	OLEFIN_PLANTS_IHS	
OBJECT	Petrochemical plants	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_44	
LAYER NAME	LNG_LIQUEFACTION_IHS	
OBJECT	Gas liquefaction plants	



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SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_45	
LAYER NAME	METHANOL_PLANTS_IHS	
OBJECT	Methanol production plants	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_46	
LAYER NAME	REFINERIES_IHS	
OBJECT	Refineries	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_47	
LAYER NAME	ELECTRIC_PLANTS_IHS	
OBJECT	Electric plants	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_48	
LAYER NAME	GAS_PROCESSING_PLANTS_IHS	
OBJECT	Gas processing plants	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_49	
LAYER NAME	PORTS_IHS	
OBJECT	Ports	
SOURCE(S)	IHS	
ID_COUCHE_GISEP	GISEP_50	
LAYER NAME	LNG_REGASIFICATION_IHS	
OBJECT	Regasification plants	
SOURCE(S)	IHS	