



# Geological database report

Dissemination level: PU - Public

Hystories deliverable D1.2-0

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## Revision History

Revision	Revision date	Summary of changes
0	23 March 2022	Initial version

## Checked by:

Name	Institute	Date
Clive Cartwright Reviewer	British Geological Survey	10 March 2022
Yann Le Gallo	Geostock	23 March 2022

## Approved by:

Name	Institute	Date
Ceri Vincent WP1 Leader	CO <sub>2</sub> GeoNet-British Geological Survey	18 March 2022
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# 1. Introduction

The key activity of Work Package 1 (WP1) is to build a unified database collating available geological data on reservoir and seal characteristics, extending existing databases with attributes of interest for Hydrogen storage. This database will form the basis for the Hystories assessment of H<sub>2</sub> storage in Europe.

The Hystories database builds on primary basic reservoir data collected in two previous projects, these being Energy Storage Mapping and Planning (ESTMAP) and CO<sub>2</sub> Storage Potential in Europe (CO<sub>2</sub>StoP). The database has been significantly updated and expanded through addition of newly available data from reports, scientific papers and other reputable sources, together with a review of data provided during the ESTMAP and CO<sub>2</sub>StoP projects.

The Hystories database advances the level of knowledge for hydrogen storage in Europe by collating additional data, focused on supporting the assessment of the geochemical and microbiological impacts of hydrogen storage, through the inclusion of additional data attributes using the criteria defined in Task 1.1. The database was designed following discussions with all Hystories Work Packages that will rely on the database to ensure inclusion of relevant storage site data, where such data are available in the public domain. Collated data for potential porous media H<sub>2</sub> stores includes basic reservoir and petrophysical data (e.g. depth, thickness, porosity, permeability, lithology and net-to-gross, reservoir pressure, temperature, salinity of pore water) as well as geochemical data, where such data are available in the public domain.

This report includes statistical information on the data collated by the Hystories project partners, Third Parties and subcontractors as of February 2022. The data were collated by geoscientists with expertise in subsurface storage. For 18 countries, the data were collated by in-country experts, for 5 countries, the data has been collated by experts in adjacent countries (Figure 1 and

Table 1). Additional information, where appropriate, will be added to the database during the Hystories project, this will include, for example, the results of analyses performed by Hystories partners in the other work packages. This completed database will be displayed via a Geographic Information System which will also contain additional information relevant to hydrogen storage (e.g. location of oil and gas pipelines), where such data are available for use.

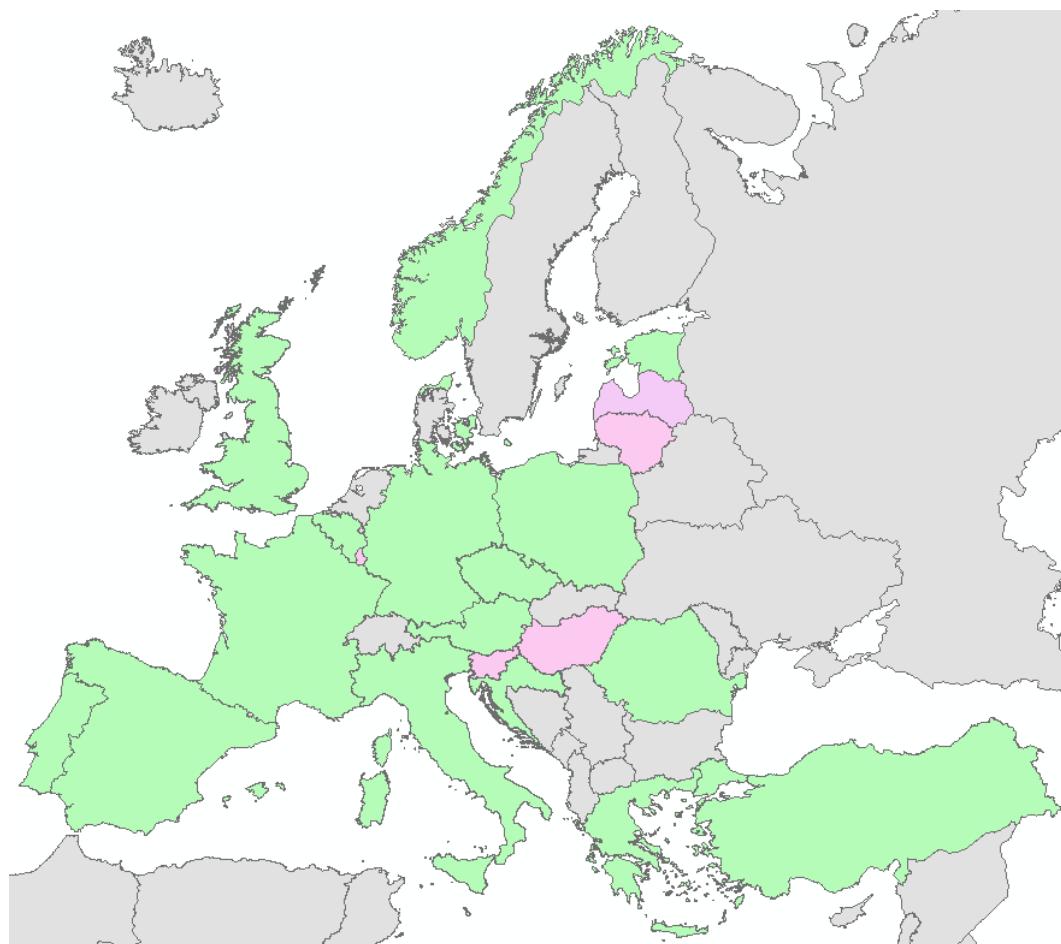


Figure 1: Hystories database coverage. Green indicates countries where data were collected by in-country experts, pink represents countries where data were collected by experts in adjacent countries



Table 1: Hystories partners and Third Parties collating data. Countries in green are covered by in-country experts, countries in pink are covered by experts from adjacent countries

Country	Hystories partner/Third Party
Austria	Geologische Bundesanstalt (Geological Survey of Austria) (GBA)
Belgium	Royal Belgian Institute of Natural Sciences – Geological Survey of Belgium (RBINS-GSB)
Croatia	University of Zagreb, Faculty of Mining, Geology and Petroleum Engineering (UNIZG-RGNF)
Czech Republic	Czech Geological Survey (CGS)
Denmark	Geological Survey of Denmark and Greenland (GEUS)
Estonia	Tallinn University of Technology, Department of Geology (TalTech-DG)
France	Bureau de Recherches Géologiques et Minières (BRGM)
Germany	Deutsches GeoForschungsZentrum (GFZ)
Greece	Centre for Research and Technology Hellas (CERTH)
Hungary	GBA
Italy	Istituto Nazionale di Oceanografia e di Geofisica Sperimentale (OGS)
Latvia	TalTech-DG
Lithuania	TalTech-DG
Luxembourg	RBINS-GSB
Norway	Norway – Norwegian Research Center AS (NORCE)
Poland	Główny Instytut Górnictwa (GIG) Mineral and Energy Economy Research Institute of the Polish Academy of Sciences (MEERI PAS)
Portugal	Institute of Earth Sciences (ICT) as represented by University of Evora (Evora)
Romania	Romania – Institutul National de Cercetaredezvoltare Pentru Geologie Si Geoecologie Marina (GEOECOMAR)
Slovenia	Geološke raziskave in drugo svetovanje supporting UNIZG-RGNF
Spain	Instituto Geológico y Minero de España (IGME)
Turkey	Middle East Technical University - Petroleum Research Center (METU-PAL)
UK	UK Research and Innovation as represented by British Geological Survey (BGS)

## 2. Database structure

The Hystories database has been developed to allow for the input of geological formation data, associated storage units (within those formations) and any identified traps or reservoirs (aquifer or hydrocarbon traps) for potential hydrogen storage locations within each country. The database is split into 3 levels, these being formation, storage unit and trap. These levels are all linked together through a database relationship enabling a one-to-many relational database structure (Figure 2).

The database contains the identified high-level formations within each country that may have the potential for hydrogen storage. Within those formations are multiple storage units representing the area within the formation where hydrogen could be stored. Data can be added for multiple traps within each storage unit data representing geological closures for hydrogen storage. The database allows the addition of detailed information for each formation, storage unit and trap to build as complete a picture as possible of the potential for hydrogen storage within each of the Hystories countries.

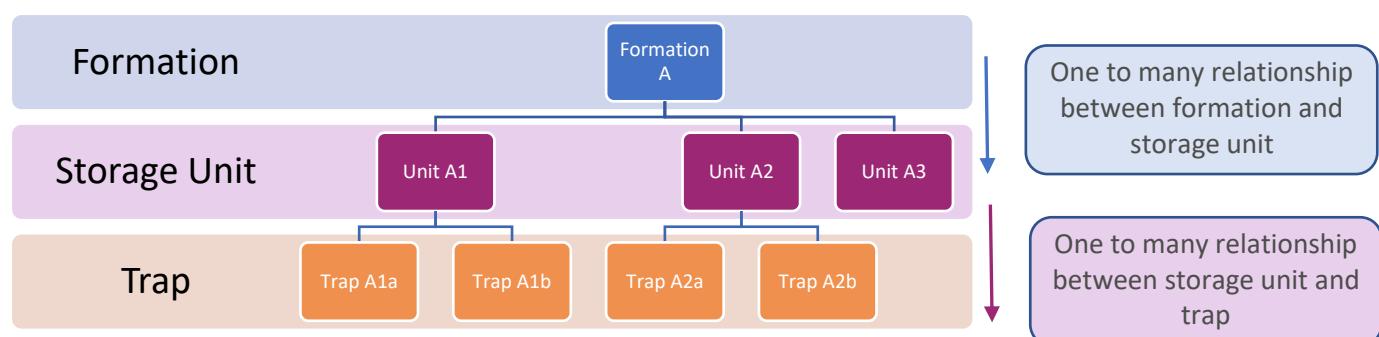


Figure 2: relational database

### 3. Database Review

Overall the Hystories database contains 309 formations, 557 storage units and 917 traps (Table 2). Appendix 1 includes the database table of geological formations with identified potential for storage. This table indicates where storage potential may be present and site-specific investigation will be required to develop potential stores.

All countries, with the exception of Estonia, were able to identify formations and storage units for potential Hydrogen storage. In some instances it was not possible to identify structural closures (traps) that could store hydrogen but the identification of potential storage areas ensures that there are areas that could be further investigated (see table below, some countries have storage ‘units’ but not ‘traps’). Data is sometimes confidential and, in some cases, data has not yet been collected. Therefore, an absence of identified traps in Hystories does not necessarily indicate an absence of storage potential.

Table 2: Identified geological formations, units and traps in the Hystories database

Country	Formations	Units	Traps (All)	Aquifer Traps	Hydrocarbon Field Traps
Austria	7	7	30	0	30
Belgium	9	7	3	3	0
Croatia	8	20	26	5	21
Czech Republic	3	25	6	1	5
Denmark	5	6	14	14	0
Estonia	0	0	0	0	0
France	5	5	48	10	38
Germany	25	25	75	24	51
Greece	6	5	10	7	3
Hungary	4	20	27	0	27
Italy	48	64	20	0	20
Latvia	1	1	18	18	0
Lithuania	1	1	15	3	12
Luxembourg	2	1	0	0	0
Norway	11	11	16	3	13
Poland	14	16	102	38	64
Portugal	2	5	0	0	0
Romania	12	13	41	4	37
Slovenia	8	17	21	17	4
Spain	43	99	89	86	3
Turkey	14	94	94	0	94
UK	81	115	262	0	262

There are two additional points to note in terms of national data availability: Estonia could not define any formations that would be suitable for hydrogen storage. The UK has a database

of potential ‘traps’ for CO<sub>2</sub> storage including both aquifer structural closures and hydrocarbon fields. The raw data were not available to include in the Hystories database for commercial reasons. However, basic reservoir data can be downloaded from the [CO<sub>2</sub>Stored](#) website for research purposes, to consider aquifer storage potential in the UK sector of the North Sea.

The Hystories data will be displayed via a Geographic Information System (GIS). A draft version has been prepared at the time of writing this report (Figure 3 and Figure 4). The polygons represent areas where storage potential may exist and reflects the formations, units and traps within the database. It is worth noting that in some cases, the polygons are artificial where there is uncertainty over the extent of the geographical area with potential for storage, or where the data are confidential.

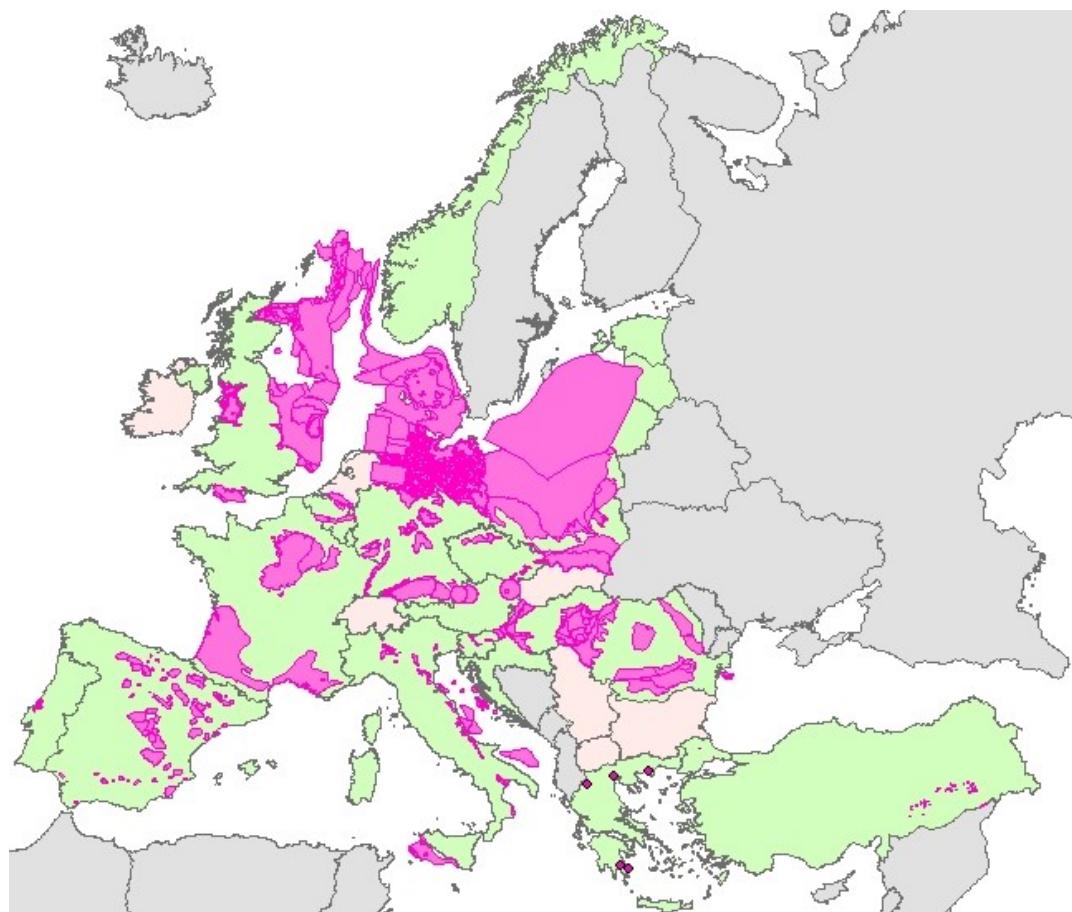


Figure 3: Identified storage units in the Hystories database that may contain sites suitable for hydrogen storage

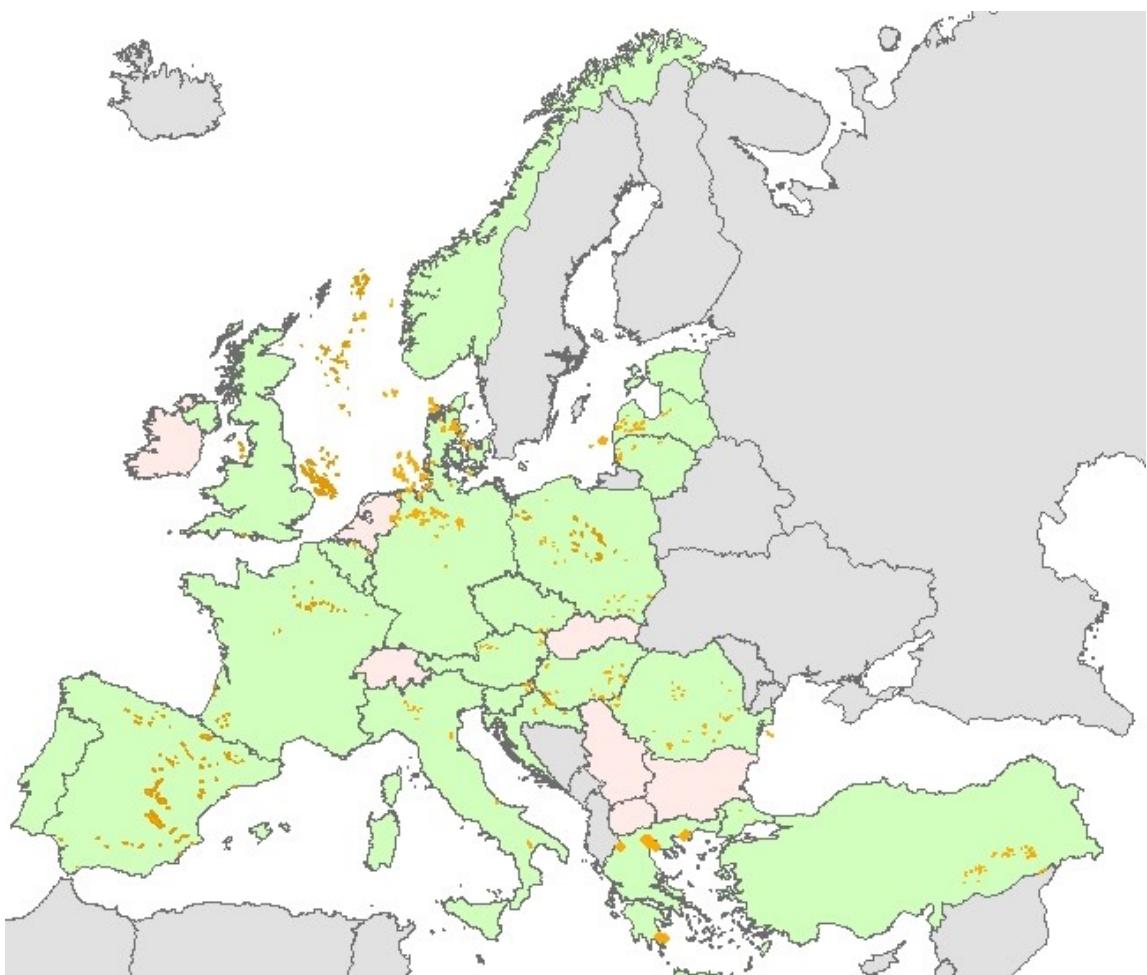


Figure 4: Identified structural closures (traps) in the Hystories database that could be considered for geological storage of hydrogen in porous media. These are the traps that could be identified using publicly available data, therefore, an absence of identified traps does not necessarily indicate an absence of storage potential.

All of the storage formations, units and traps identified by Hystories indicate the potential for hydrogen storage. All identified potential would require further investigation and site-specific data collection and assessment before being considered ‘bankable’ storage capacity.

## 4. Data availability

Data availability is variable across the range of countries involved in the Hystories project. Differing countries have differing data available in the public domain and this has restricted the population of the database in some areas. A review of which data are available in the public domain and included in the Hystories database is included in Table 3.

Table 3: Data availability as a percentage, for the Hystories ‘traps’

Data availability	Database fields considered	Hydrocarbon ‘traps’	Aquifer ‘traps’
Basic site data	Operator, owner, license, current development surface/subsurface interference, status, water depth	64	42
Additional site data	Planned development, availability, exploration for storage started, storage developed ( <i>Note: none/unknown are possible options</i> )	43	59
Basic reservoir data	Geological period & age, lithology, thickness, porosity, permeability, average depth, minimum depth, areal extent, fluid fill	72	91
Additional reservoir data	Environment of deposition, pressure & temperature, net-to-gross, average dip of formations, brine salinity, susceptibility of damage during injection, lateral connectivity, risk of lateral migration, compartmentalisation	38	61
Reservoir geochemical data	Mineralogy, presence and details of CO <sub>2</sub> , sulphides/sulphates and iron (note unknown is an option)	13	10
Oil and gas data	Ultimately recoverable reserves, oil formation volume factor/gas expansion factor, discovery year, start/end of production, number and age of wells, abandoned wells, age of platform, well flow rate, annual production	28	9
Basic seal data	Geological period & age, lithology, thickness, seal overlies whole formation	42	75
Additional seal data	Environment of deposition, additional seals	12	43
Seal geochemical data	Mineralogy, presence of sulphides/sulphates and iron	3	25
Geological fault data	Fault density, faults in seal, displacement vs seal thickness, fault throw	6	9
Detailed geological/geophysical data	Have seismic and well data been collected? Rock cores? Geophysical logs? Geological models done? Data quality	9	67

The database provides the ability to input a very wide range of data, should it be available, to build a complete picture of the potential storage location. However, due to the understanding

that not all data will be available, some key attributes were highlighted for the partners to focus their data capture efforts. The database was completed using publicly available data and therefore there are gaps in what data are available, since some data remain confidential. In addition, some of the required data have not been collected in areas where seismic data has not been collected and wells have not been drilled.

During the data collection process, BGS undertook a quality check to confirm if the ‘essential criteria’ in the database had been populated by each country representative for the formations, units and traps. This was not a check of the data itself, but instead a check that the database fields had been completed. Gaps remain in the database where data are not available in the public domain.

As the database is being utilised by the other Work Packages, additional questions on the data are being raised and resolved. For example, there are variations between the H<sub>2</sub> capacity calculated using the Hystories database compared with volumetric data published by the storage operator for an active natural gas storage site. This is a result of variations between publicly available and the data held confidential by the storage operator.

## 5. Future work

Development of the Hystories database and Geographic Information System will continue throughout the project. In addition, basic reservoir data collected during the CO<sub>2</sub>StoP project will be added to allow potential stores not reviewed by Hystories Work Package 1 to be considered in the other work packages. A detailed report on data collected and the porous media storage potential of each country is being prepared as D1.4.

The data were delivered to the Hystories WP partners in February 2022. Work Package 2 will use the data collated in Work Package 1 to support a modelling programme that will assess potential capacity across Europe. Work Packages 2 and 3 are considering the impacts of the geochemistry and microbiological community and WP7 will attempt to categorise and rank potential storage sites using the data collated in WP1, 2 and 3 as a starting point.

When complete, the data will be displayed in a GIS similar to the CO<sub>2</sub>StoP database (Figure 5)

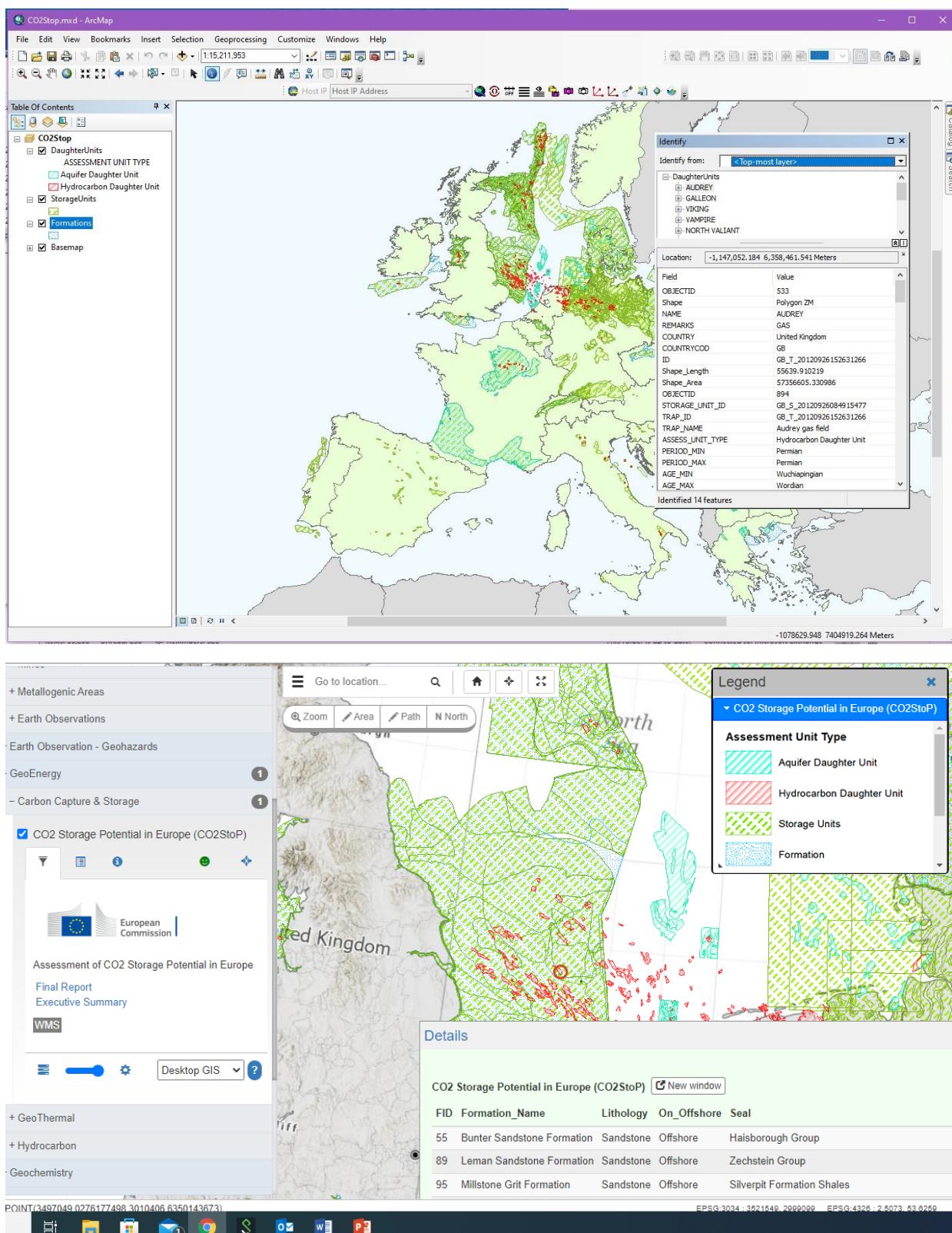


Figure 5: CO<sub>2</sub>StoP desktop GIS (top) and online GIS on the EGDI platform (bottom). Lower image courtesy EGDI <http://www.europe-geology.eu/map-viewer/>

## Appendix 1 Table of identified geological formations with potential for storage

OBJECTID	FORMATION_ID	FORMATION_NAME	NO_STORE_UNITS	NO_DAUGHTER_UNITS	ASSESS_UNIT_TYPE	PERIOD_MIN_RES	PERIOD_MAX_RES	AGE_MIN_RES	AGE_MAX_RES	STRAT_GROUP_RES	STRAT_FORMATION_RES	LITHOLOGY_RES	GEOGRAPHIC_AREA	GEOLOGICAL_BASIN	ON_OFSHORE	REP_THICK_RES	REP_POR	SEAL	REP_THICK_SEAL	REMARKS	COUNTRY	COUNTRYCODE	X	Y	Projection_Info	Date_Entered
31_2	CZ_F_20121002123_525510	Neogene Fill of Vienna Basin below 500m	2	2	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Messinian	Aquitanian	various	various	Sandstone	Czech Republic	Vienna Basin	Onshore	150_0	0	Neogene claystones	0		Czech Republic	CZ	-568480	-1200540	S-JTSK_Krovak_East_North_EPS_G_5514	Oct 02, 2012 12:35:25 PM
31_3	CZ_F_20121018133_730541	Neogene of Carpathian Foredeep	19	4	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Tortonian	Aquitanian	various	various	Sandstone	Czech Republic	Carpathian Foredeep	Onshore	0	0	Neogene claystones and Flysch units	0	Partly covered by Carpathian Flysch Nappes	Czech Republic	CZ	-539391	-1145093	S-JTSK_Krovak_East_North_EPS_G_5514	Oct 18, 2012 1:37:30 PM
31_4	CZ_F_20121019100_338402	Bohemian Permo-Carboniferous	4	0	Saline Aquifer without hydrocarbon fields	Permian	Carboniferous	Changhsingian	Bashkirian				Czech Republic	Bohemian Late Palaeozoic Basin	Onshore	0	0		0	Limnic basin, no representative values for thickness, porosity or seal can be provided	Czech Republic	CZ	-727791	-1009088	S-JTSK_Krovak_East_North_EPS_G_5514	Oct 19, 2012 10:03:38 AM
31_7	PT_F_20211020115_205758	Grés de Silves Group	4	0	Saline Aquifer without hydrocarbon fields	Triassic	Triassic	Rhaetian	Carnian	Grés de Silves	Castelo Viegas; and Penela	Sandstone	Oeste	Lusitanian Basin	Onshore	105_2	0.13	Salt	100_0	POLYGON DOES NOT REPRESENT TRUE EXTENT OF THE FORMATION	Portugal	PT	8.880364	39.640506	GCS_WGS_1984	Oct 20, 2021 11:52:06 AM
32_3	PT_F_20211020152_741651	Torres Vedras	1	0	Saline Aquifer without hydrocarbon fields	Cretaceous	Cretaceous	Aptian	Berriasian	Torres Vedras	Torres Vedras	Sandstone	Região de Leiria	Lusitanian Basin	Onshore	425	0.28	Formation of Cacém	41	POLYGON DOES NOT REPRESENT TRUE EXTENT OF THE FORMATION	Portugal	PT	8.891316	39.787643	GCS_WGS_1984	Oct 20, 2021 3:27:42 PM
32_5	RO_F_20121018120_046907	Sarmatian Formation from Moldavian Platform	1	1	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Serravallian	Tortonian	Neogene	Sarmatian	Sandstone	Moldova	Moldavian Platform	Onshore	25	20		0		Romania	RO	503365.063	5227842.434	UTM35N	Oct 18, 2012 12:00:46 PM
32_7	RO_F_20210916170_248461	Histria Depression West	2	4	Saline Aquifer with hydrocarbon fields	Cretaceous	Paleogene	Albian	Ypresian				Black Sea Basin	Black Sea continental shelf	Offshore	0	0.3		100		Romania	RO	688411.165	4931238.535	UTM35N	Sep 16, 2021 5:02:48 PM
32_8	RO_F_20210916170_902123	Meotian Formation from Moesian Platform	1	3	Saline Aquifer with hydrocarbon fields								Muntenia	Moesian Platform	Onshore	0	0		0		Romania	RO	388165.032	4939677.889	UTM35N	Sep 16, 2021 5:09:02 PM
33_0	RO_F_20210922104_138700	Pliocene Formation from Pannonian Basin	1	2	Saline Aquifer with hydrocarbon fields								Banat	Pannonian Depression	Onshore	0	0		0		Romania	RO	84884.8533	5154827.433	UTM35N	Sep 22, 2021 10:41:39 AM
31_2	RO_F_20121018105_236206	Meotian Formation from Getic Depression	1	2	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Tortonian	Tortonian			Sandstone	Oltenia	Getic Depression	Onshore	0	0.2	shales	0		Romania	RO	265284.401	4976058.665	UTM35N	Oct 18, 2012 10:52:36 AM
31_3	RO_F_20121018105_421026	Meotian Formation from Mi-Pliocene Subzone in Muntenia	1	4	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Tortonian	Tortonian			Sandstone	Muntenia	Diapyre Folds Zone	Onshore	100	20		0		Romania	RO	427734.885	4992487.439	UTM35N	Oct 18, 2012 10:54:21 AM
31_5	RO_F_20121018110_105635	Middle Jurassic Formation from Moesian Platform	1	5	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Aalenian	Callovian			Sandstone	Oltenia	Moesian Platform	Onshore	0	0	shales	0		Romania	RO	384088.76	4909084.09	UTM35N	Oct 18, 2012 11:01:05 AM
31_6	RO_F_20121018110_153285	Miocene Formation from Pannonian Basin	1	3	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Langhian	Tortonian			Sandstone	Banat	Pannonian Depression	Onshore	70	20	Pliocene shales	0		Romania	RO	106491.987	5168049.206	UTM35N	Oct 18, 2012 11:01:53 AM
31_8	RO_F_20121018110_322201	Pontian Formation from Focsani Basin	1	5	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Messinian	Messinian			Sandstone	Muntenia	Moesian Platform	Onshore	0	0	marls	0		Romania	RO	513419.393	5013625.982	UTM35N	Oct 18, 2012 11:03:22 AM
31_9	RO_F_20121018110_406427	Sarmatian Formation from Moesian Platform	1	2	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Serravallian	Tortonian			Sandstone	Muntenia	Moesian Platform	Onshore	40	30	marls	0		Romania	RO	430752.181	4941579.931	UTM35N	Oct 18, 2012 11:04:06 AM
32_0	RO_F_20121018110_532335	Sarmatian Formation from North-Dobroudjan Promontory	1	3	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Serravallian	Tortonian			Sandstone	Dobrogea	North Dobroudjan Promontory	Onshore	0	20	compact limestones with pelitic intercalations	0		Romania	RO	551565.692	5085511.192	UTM35N	Oct 18, 2012 11:05:32 AM
32_2	RO_F_20121018110_957022	Sarmatian Formation from Transylvanian Depression	1	7	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Serravallian	Tortonian	Miocene	Sarmatian	Sandstone	Transilvania	Transylvanian Depression	Onshore	100	0.2	claystone	50		Romania	RO	314142.252	5138667.447	UTM35N	Oct 18, 2012 11:09:57 AM
31_2	AT_F_20120924170_441760	Hauptdolomit tyrolian nappe	1	3	Saline Aquifer with hydrocarbon fields	Triassic	Triassic	Carnian	Norian			Dolostone/dolomite	Lower Austria	Vienna Basin	Onshore	0	0		0		Austria	AT	649203.661	501282.9084	MGI Austria Lambert	Sep 24, 2012 5:04:41 PM
31_3	AT_F_20120925142_717238	Upper Cretaceous & Upper Eocene	1	6	Saline Aquifer with hydrocarbon fields	Paleogene	Cretaceous	Rupelian	Cenomanian			Sandstone	Upper Austria	Molasse Basin Vienna Basin Styrian Basin Intramontaneous Basins Northern Calcareous Alps Flysch- & Helvetic Nappes Pannonian Basin	Onshore	0	0		0		Austria	AT	444418.6815	466778.4508	MGI Austria Lambert	Sep 25, 2012 2:27:17 PM

31	AT_F_20121102160 6 144734	Hauptdolomit baujvarian nappe	1	1	Saline Aquifer with hydrocar bon fields	Triassic	Triassic	Carnian	Norian				Lower Austria	Vienna Basin	Onsh ore	0	0		0		Austria	A T	637594.5 645	492326.35 83	MGI Austria Lambert	Nov 02, 2012 4:01:44 PM	
31	AT_F_20210831103 9 318620	Paleocene & Miocene sandstones	1	10	Saline Aquifer with hydrocar bon fields	Neogene	Paleogene						Sandstone	Lower Austria	Vienna Basin	Onsh ore	0	0	0	Miocene Reservoirs in the Vienna Basin are typically strongly compartmentalized	Austria	A T	634234.1 238	505628.91 51	MGI Austria Lambert	Aug 31, 2021 10:33:18 AM	
32	AT_F_20210901075 1 111916	Puchkirchen Group	1	8	Saline Aquifer with hydrocar bon fields	Neogene	Paleogene	Burdigalian	Chattian				Upper Austria	Molasse Basin Vienna Basin Styrian Basin Intramountainous Basins Northern Calcareous Alps Flysch- & Helvetic Nappes Pannonian Basin	Onsh ore	0	0	0		Austria	A T	399114.5 739	463417.17 83	MGI Austria Lambert	Sep 01, 2021 7:51:11 AM		
32	AT_F_20210901084 2 411804	Hall Formation	1	1	Saline Aquifer with hydrocar bon fields	Neogene	Neogene	Burdigalian	Aquitanian				Sandstone	Upper Austria	Molasse Basin Vienna Basin Styrian Basin Intramountainous Basins Northern Calcareous Alps Flysch- & Helvetic Nappes Pannonian Basin	Onsh ore	0	0.22	0		Austria	A T	412251.6 769	466648.58 88	MGI Austria Lambert	Sep 01, 2021 8:44:12 AM	
32	AT_F_20210901114 3 202026	Hoefflein Formation	1	1	Saline Aquifer with hydrocar bon fields	Jurassic	Jurassic	Callovian	Callovian				Lower Austria	Vienna Basin	Onsh ore	0	0	0		Austria	A T	618676.7 699	497561.88 92	MGI Austria Lambert	Sep 01, 2021 11:42:02 AM		
31	BE_F_20210827160 9 834523	Dinantian Supergroup 3	1	0	Saline Aquifer without hydrocar bon fields	Carbonifer ous	Carbonifer ous	Visean	Tournasian	Dinantia n Supergr oup			Carbonate	Wallonia	Namur parautochton ous	Onsh ore	200	0	Chokier Formation (shales)	40	Aquifer explored for geothermal production (early stages). No core data available, seismic campaign planned.	Belgium	B E	230000	135000	Belgian datum 72, Lambert 1972	Aug 27, 2021 4:08:34 PM
32	BE_F_20210831093 3 436780	Neeroeteren Formation CB	1	0	Saline Aquifer without hydrocar bon fields	Carbonifer ous	Carbonifer ous	Kasimovia	Moscovian	Belgian Coal Measure s Group	Neeroetere n Formation	Sandstone	Flanders	Campine basin	Onsh ore	400	0.15	Heilcheren Formation (Zechstein)	30	The Neeroeteren Formation outside of the Roer Valley Graben occurs at sufficient depth and has good reservoir properties, but is only partly covered by a sealing formation. It is assumed that the northern part of the reservoir is at sealed.	Belgium	B E	234000	200000	Belgian datum 72, Lambert 1972	Aug 31, 2021 9:34:36 AM	
32	LU_F_20210831162 4 118196	Buntsandstein aquifer	1	0	Saline Aquifer without hydrocar bon fields	Triassic	Triassic	Ladinian	Induan				Sandstone	Gutland	Paris Basin	Onsh ore	200	0	Muschelkalk	60		Luxemburg	L U	70000	65000	Luxembourg 1930 / Gauss - EPSG:2169	Aug 31, 2021 4:21:18 PM
32	LU_F_20210831165 5 341992	Rotliegend	0	0									Gutland	Paris Basin	Onsh ore	0	0		0	This potential formation is located at sufficient depth, but not further considered because no overlying sealing formation could be identified.	Luxemburg	L U	78000	65000	Luxembourg 1930 / Gauss - EPSG:2169	Aug 31, 2021 4:53:42 PM	
31	BE_F_20120921102 2 046500	Buntsandstein Formation	1	1	Saline Aquifer without hydrocar bon fields	Triassic	Triassic	Olenekian	Induan	Germani c Tras Supergroup	Buntsandst ein Formation	Sandstone	Flanders	Roer Valley Graben	Onsh ore	200	0	Jurassic shales	0	limited information available. Buntsandstein FM can be found in both the Campine Basin and the Roer Valley Graben. For depth and sealing constraints we only evaluate the RVG.	Belgium	B E	240000	205000	Belgian datum 72, Lambert 1972	Sep 21, 2012 10:20:46 AM	
31	BE_F_20120921102 3 921359	Neeroeteren Formation RVG	1	0	Saline Aquifer without hydrocar bon fields	Carbonifer ous	Carbonifer ous	Kasimovia	Moscovian	Belgian Coal Measure s Group	Neeroetere n Formation	Sandstone	Flanders	Roer Valley Graben	Onsh ore	400	0.15	Jurassic Shales	0	The Neeroeteren Formation is likely present in Roer Valley Graben, but has not been confirmed by drilling. Its sealing rocks will be different than those outside of the RVG.	Belgium	B E	232000	210000	Belgian datum 72, Lambert 1972	Sep 21, 2012 10:29:21 AM	
31	BE_F_20120924133 4 657250	Maastricht Formation and Houthem Formation	1	0	Saline Aquifer without hydrocar bon fields	Paleogene	Cretaceou s	Danian	Maastrichti an		Maastricht Formation and Houthem Formation	Chalk	Flanders	Campine basin	Onsh ore	65	0	Heers Formation and Hannut Formation	40	Shallow dome structure could be present, earlier recognised domes have not been confirmed.	Belgium	B E	198000	235000	Belgian datum 72, Lambert 1972	Sep 24, 2012 1:36:57 PM	
31	BE_F_20120924135 5 156406	Dinantian Supergroup 1	1	2	Saline Aquifer without hydrocar bon fields	Carbonifer ous	Carbonifer ous	Visean	Tournasian	Dinantia n Supergr oup	Loenhout, Velp, Kessel, Sint-Etienne- Turnhout, Vesder Formations	Carbonate	Flanders	Campine basin	Onsh ore	100	0	mudstones and silicified limestones	130	Limited amount of data publicly available	Belgium	B E	185000	200000	Belgian datum 72, Lambert 1972	Sep 24, 2012 1:51:56 PM	
31	BE_F_20121002151 6 947640	Aisemont Formation	0	0	Saline Aquifer without hydrocar bon fields	Devonian	Devonian	Frasnian	Frasnian	Frasnian group	Aisemont Formation	Dolostone/dol omite	Flanders	Campine basin	Onsh ore	30	0	Falisolle Formation (shales)	40	This reservoir is known from three drillings, of which two at relevant locations. It was recently drilled for geothermal exploration, but less productive than the overlying Dinantian reservoir.	Belgium	B E	180000	200000	Belgian datum 72, Lambert 1972	Oct 02, 2012 3:19:47 PM	
31	BE_F_20121002154 7 410859	Givetian Group and Frasnian Group	0	0	Saline Aquifer without hydrocar bon fields	Devonian	Devonian	Frasnian	Givetian	Givetian Group, Frasnian Group	Givetian Group, Frasnian Group	Carbonate	Wallonia	Dinantian synclinorium	Onsh ore	200	0	Shales of the Famennian Group	100	In the Dinant synclinorium, the numerous anticlines are hypothesised to have given rise to elongated domelike traps, provided that	Belgium	B E	185000	96000	Belgian datum 72, Lambert 1972	##### ####	

31	BE_F_20121002154 8 511843	Dinantian Supergroup 2	1	0	Saline Aquifer without hydrocarbon fields	Carboniferous	Carboniferous	Visean	Tournasian	Dinantian Supergr oup	Carbonate	Wallonia	Mons basin	Onshore	250 0	0	Westphalian (Pennsylvanian) coal deposits, clay and siltstones provide sealing capacity	the Givetian and Frasnian limestones are sufficiently permeable and the Famenian shales provide a barrier. Unexplored.							
31	FR_F_20121004174 2 201733	Dogger carbonaté	1	12	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Bajocian	Callovian	Dogger	Carbonate	France (Continental )	Bassin de Paris	Onshore	0	0	Claystone	Reservoir exploited and further developed for geothermal energy, also explored for CO2 geological storage	Belgium	B E	130000	120000	Belgian datum 72, Lambert 1972	Oct 02, 2012 3:45:11 PM	
31	FR_F_20121004185 3 401816	Rhétien-Keuper	1	24	Saline Aquifer with hydrocarbon fields	Triassic	Triassic	Rhaetian	Carnian			France (Continental )	Bassin de Paris	Onshore	0	0			France	F R	704084	6833644	RGF 1993 Lambert-93	Oct 04, 2012 5:42:01 PM	
31	FR_F_20121004185 4 411377	Bundsandstein	1	1	Saline Aquifer with hydrocarbon fields	Triassic	Triassic	Olenekian	Induan		Sandstone	France (Continental )	Bassin de Paris	Onshore	0	0			France	F R	858941	6847512	RGF 1993 Lambert-93	Oct 04, 2012 6:54:11 PM	
31	FR_F_20121004191 5 904670	Formations du Bassin d'Aquitaine	1	11	Saline Aquifer with hydrocarbon fields							France (Continental )	Bassin d'Aquitaine	Onshore	0	0		0 no estimation	France	F R	472955	6354050	RGF 1993 Lambert-93	##### ######	
31	FR_F_20121004192 6 110490	Formations du Bassin du Sud-Est	1	0	Saline Aquifer with hydrocarbon fields	Triassic	Paleogene	Induan	Chattian			France (Continental )	Bassin du Sud-Est	Onshore	0	0		0 no estimation	France	F R	865875	6304357	RGF 1993 Lambert-93	Oct 04, 2012 7:21:10 PM	
31	GR_F_20210730112 7 643626	Eptachori	1	0	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Chattian	Rupelian	Eptachori	Sandstone	Western Macedonia	Mesohellenic Basin	Onshore	100 0	0.12	Tsotyli	600	Greece	G R	246400	4456419	GGRS/Greek Grid EPSG:2100	Jul 30, 2021 11:26:45 AM	
31	GR_F_20121028124 2 324266	Prinos Sand	1	3	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Messinian	Serravallia n		Sandstone	Eastern Macedonia	Prinos Basin	Offshore	260	0	Evaporites	0	Greece	G R	375095	4826084	LAMBERT CONFORMAL CONIC - Project Projection	Oct 28, 2012 12:43:24 PM	
31	GR_F_20121028173 3 422377	W. Thessaloniki	1	4	Saline Aquifer with hydrocarbon fields	Paleogene	Paleogene				Sandstone	Central Macedonia	Thessaloniki Basin	Both	100	0	Clay	0	Greece	G R	243366	4805865	LAMBERT CONFORMAL CONIC - Project Projection	Oct 28, 2012 5:34:22 PM	
31	GR_F_20121028174 4 412573	Grevena Basin	1	1	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene				Sandstone	Western Macedonia	Mesohellenic Basin	Onshore	300	0	Silty marls	0	Greece	G R	92225	4816100	LAMBERT CONFORMAL CONIC - Project Projection	Oct 28, 2012 5:44:12 PM	
31	GR_F_20121114123 5 203004	Katakolon	0	0	Saline Aquifer with hydrocarbon fields	Paleogene	Cretaceous				Carbonate	NW Peloponnes e	West Katakolon Structure	Both	0	0	Clays - Anhydrites	0	The Katakolon area and the entire Western Greece is currently an area under detailed exploration for hydrocarbons.	Greece	G R	114282	4528200	LAMBERT CONFORMAL CONIC - Project Projection	Nov 14, 2012 12:32:03 PM
31	GR_F_20210716143 6 511762	Pentalofos	1	2	Saline Aquifer without hydrocarbon fields	Paleogene	Neogene	Chattian	Aquitanian	Pentalofos	Sandstone	Western Macedonia	Mesohellenic Basin	Onshore	250 0	0.15	Tsotyli	100 0 hydrostatic pressure	Greece	G R	276810	4444886	GGRS87/ Greek Grid EPSG:2100	Jul 16, 2021 2:35:13 PM	
31	HU_F_20210817150 4 639519	Újfalú	1	1	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Tortonian	Tortonian	Dunántú l	Újfalú	Sandstone, Siltstone, Claymari		Onshore	400	0.2	Zagyva	0	Hungary	H U	0	0		##### ######	
31	HU_F_20210818101 5 832505	Peremarton Formation Group	2	2	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Tortonian	Tortonian	Peremar ton				Onshore	0	0		0	Hungary	H U	0	0		Aug 18, 2021 10:18:32 AM	
31	HU_F_20120829111 2 413002	Szolnok	12	17	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Tortonian	Tortonian	Peremar ton	Szolnok	Sandstone		Onshore	550	0.2	Algýó	150	Hungary	H U	0	0		Aug 29, 2012 11:14:13 AM	
31	HU_F_20120926215 3 830569	Base conglomerate	5	7	Saline Aquifer with hydrocarbon fields									Onshore	0	0		0	Hungary	H U	0	0		##### ######	
32	IT_F_201210311020 8 32101	CUGNO LE MACINE	1	2	Saline Aquifer with hydrocarbon fields						Southern Italy	Bradanic foredeep	Onshore	0	0		0	Formation has no aquifer storage potential but has potential within its hydrocarbon fields	Italy	IT	16.42954 877	40.527625 13	x: long y: lat WGS84_ Web_Mercator_Auxiliary_Sphere	##### ######	
32	IT_F_201210311042 9 50082	LENO	1	1	Saline Aquifer with hydrocarbon fields						Po Plain	Po Plain	Onshore	0	0		0	Formation has no aquifer storage potential but has potential within its hydrocarbon fields	Italy	IT	10.20287 927	45.394282 94	x: long y: lat WGS84_ Web_Mercator_Auxiliary_Sphere	##### ######	
33	IT_F_201210311112 0 56239	PIADENA EST	1	1	Saline Aquifer with hydrocarbon fields						Po Plain	Adria foredeep	Onshore	0	0		0	Formation has no aquifer storage potential but has potential within its hydrocarbon fields	Italy	IT	10.23198 3	45.124135	x: long y: lat WGS84_ Web_Mercator_Auxiliary_Sphere	##### ######	
33	IT_F_201210311140 1 12049	SERRA PIZZUTA	1	2	Saline Aquifer with hydrocarbon fields						Southern Italy	Bradanic foredeep	Onshore	0	0		0	Formation has no aquifer storage potential but has potential within its hydrocarbon fields	Italy	IT	16.53036 924	40.400064 31	x: long y: lat WGS84_ Web_Mercator_Auxiliary_Sphere	##### ######	
33	IT_F_201210311205 5 48505	ROMANENG O	1	1	Saline Aquifer with hydrocarbon fields						Po Plain	Po Plain	Onshore	0	0		0	Formation has no aquifer storage potential but has potential within its hydrocarbon fields	Italy	IT	9.789901	45.383114	x: long y: lat WGS84_ Web_Mercator_Auxiliary_Sphere	##### ######	
34	IT_F_202106251759 1 29452	Alfonsine stoccaggio	1	1	Hydrocarbon field	Neogene	Neogene	Zanclean	Zanclean		Porto Corsini Fm.	Sand	Po Plain	Apennine Fold and Thrust Belt	Onshore	150	0.24	Porto Garibaldi Fm.	110	Italy	IT	11.98750 2	44.530551	x: long y: lat WGS84_ Web_Mercator_Auxiliary_Sphere	Jun 25, 2021 5:59:29 PM
34	IT_F_202106291125 2 40477	Bordolano stoccaggio	1	1	Hydrocarbon field	Neogene	Neogene	Zanclean	Messianian		Caviaga sand Fm.	sand	Po Plain	Po Plain	Onshore	35	0.2	Santerno clays Fm.	450	Italy	IT	9.978168	45.292102	x: long y: lat WGS84_ Web_Mercator_Auxiliary_Sphere	Jun 29, 2021 11:25:40 AM
34	IT_F_202106291524 3 32779	Brugherio stoccaggio	1	1	Hydrocarbon field						Sergnano gravel	gravel	Po Plain	Po Plain	Onshore	0	0	Santerno clays Fm.	350	Italy	IT	9.251842	45.567379	x: long y: lat WGS84_ Web_Mercator_Auxiliary_Sphere	Jun 29, 2021 3:24:32 PM

34	IT_F_202107021702 38894	Celino stoccaggio	1	0	Hydrocarbon field							Central Italy	Apennine Fold and Thrust Belt	Onshore	0	0		0		Italy	IT	13.868043	42.605551	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 02, 2021 5:02:39 PM
34	IT_F_202107021744 523471	Cornegliano stoccaggio	1	1	Hydrocarbon field	Neogene	Neogene			Caviaga sands	sand	Po plain	Po Plain	Onshore	0	0		0		Italy	IT	9.460204	45.284072	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 02, 2021 5:44:23 PM
34	IT_F_202107051209 59141	Cortemaggiore stoccaggio	1	1	Hydrocarbon field	Neogene	Neogene	Messinian	Messinian	Cortemaggioren sands	sand	Po Plain	Po Plain	Onshore	0	0	clay	250		Italy	IT	9.970389	44.991751	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 05, 2021 12:09:59 PM
34	IT_F_202107051742 801594	Fiume Treste stoccaggio	1	1	Hydrocarbon field	Neogene	Neogene					Central Italy	Bradanic foredeep	Onshore	0	0		0		Italy	IT	14.667163	42.041541	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 05, 2021 5:42:01 PM
35	IT_F_202107081112 040417	Minerbio stoccaggio	1	1	Hydrocarbon field	Neogene	Neogene			Porto Garibaldi Fm.	sand	Po Plain	Apennine Fold and Thrust Belt	Onshore	0	0		0		Italy	IT	11.493612	44.617361	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 08, 2021 11:12:04 AM
35	IT_F_202107081445 129176	Ripalta stoccaggio	1	1	Hydrocarbon field	Neogene	Neogene	Zanclean	Zanclean	Caviaga Sands Fm.	sand	Po Plain	Po Plain	Onshore	0	0	Santrno clays	560		Italy	IT	9.711454	45.309345	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 08, 2021 2:45:30 PM
35	IT_F_202107091004 53742	Sergnano stoccaggio	1	1	Hydrocarbon field	Neogene	Neogene	Zanclean	Messinian	Sergnano gravels Fm.	gravel	Po Plain	Po Plain	Onshore	0	0	Santerno clays	0		Italy	IT	9.710216	45.434077	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 09, 2021 10:04:53 AM
35	IT_F_202107091235 09188	Settala stoccaggio	1	1	Hydrocarbon field					Santeno clays	Pandino	Po Plain	Po Plain	Onshore	0	0.23		0		Italy	IT	9.3935	45.442426	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 09, 2021 12:35:09 PM
35	IT_F_202107091404 656393	Bagnolo Mella stoccaggio	1	1	Hydrocarbon field	Neogene	Neogene	Messinian	Messinian	Sergnano gravels	gravel and sand	Po Plain	Po Plain	Onshore	0	0	santerno clays	0		Italy	IT	10.143539	45.417378	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 09, 2021 2:04:56 PM
35	IT_F_202107091456 714306	Poggiofiorito stoccaggio	1	0	Hydrocarbon fields	Neogene	Neogene	Piacenzian	Zanclean	calcareous sands	Central Italy	Apennine Fold and Thrust Belt	Onshore	0	0		0		Italy	IT	14.218631	42.251312	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 09, 2021 2:56:14 PM	
35	IT_F_202107091512 814633	Sinarca stoccaggio	1	0	Hydrocarbon field	Neogene	Neogene	Piacenzian	Zanclean	Carassai Fm.	Southern Italy	Apennine Fold and Thrust Belt	Onshore	0	0		0		Italy	IT	14.826091	41.924606	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 09, 2021 3:12:14 PM	
36	IT_F_202107201133 155997	Lachiarella	2	0	Saline Aquifer without hydrocarbon fields					Carbonate	Po Plain	Po Plain	Onshore	0	0		0		Italy	IT	9.180904214	45.2663458	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	##### ##### ######	
36	IT_F_202107201222 234673	Binasco	1	0	Saline Aquifer without hydrocarbon fields	Triassic	Triassic			Dolostone/dolomite	Po Plain	Po Plain	Onshore	0	0		1500		Italy	IT	9.103979	45.124116	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 12:22:34 PM	
36	IT_F_202107201412 305327	Malossa-San Bartolomeo	2	0	Saline Aquifer without hydrocarbon fields					Po Plain	Po Plain	Onshore	0	0		0		Italy	IT	9.621392	45.51682305	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 2:12:05 PM		
36	IT_F_202107201509 450027	Abruzzi offshore	2	0	Saline Aquifer without hydrocarbon fields					Central Italy	Adria foredeep	Offshore	0	0		0		Italy	IT	14.620168	42.85615453	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 3:09:50 PM		
36	IT_F_202107201526 519254	Abruzzo-Molise	2	0	Saline Aquifer without hydrocarbon fields	Neogene	Cretaceous	Messinian		Carbonate	Central Italy	Apennine Fold and Thrust Belt	Both	0	0.8	evaporites	0		Italy	IT	14.804188	42.044513	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 3:26:19 PM	
36	IT_F_202107201546 615015	Southern Adriatic	2	0	Saline Aquifer without hydrocarbon fields	Paleogene	Cretaceous			Scaglia Fm.	Mudstone	Adriatic offshore	Adria foredeep	Offshore	0	0		0		Italy	IT	17.56709128	41.453090	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 3:46:15 PM
36	IT_F_202107201556 715760	Northern Bradanic Trough	2	0	Saline Aquifer without hydrocarbon fields					Southern Italy	Bradanic foredeep	Onshore	0	0		0		Italy	IT	15.310543	41.44239895	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 3:56:15 PM		
36	IT_F_202107201605 831876	Southern Bradanic Trough	2	0	Saline Aquifer without hydrocarbon fields	Cretaceous	Cretaceous			Southern Italy	Bradanic foredeep	Onshore	0	0		0		Italy	IT	16.59072247	40.44819845	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 4:05:32 PM		
36	IT_F_202107201617 948225	Sicily Channel	3	0	Saline Aquifer without hydrocarbon fields					Sicily	Sicily Channel	Offshore	0	0		0		Italy	IT	12.87955273	37.1922903	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 4:17:48 PM		
37	IT_F_202107201642 015470	Abruzzi 1	2	0	Saline Aquifer without hydrocarbon fields	Neogene	Piacenzian			Central Italy	Apennine Fold and Thrust Belt	Onshore	0	0		0		Italy	IT	13.88600341	42.69817515	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 4:42:15 PM		
37	IT_F_202107201654 122807	Abruzzi 2	1	0	Saline Aquifer without hydrocarbon fields	Neogene	Piacenzian			sand	Central Italy	Apennine Fold and Thrust Belt	Onshore	0	0	clay	0		Italy	IT	14.22144083	42.32084295	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 4:54:22 PM	
37	IT_F_202107201711 221960	Abruzzi 3	1	0	Saline Aquifer without hydrocarbon fields					Central Italy	Apennine Fold and Thrust Belt	Onshore	0	0		0		Italy	IT	14.59323439	42.106955	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 5:11:22 PM		
37	IT_F_202107201715 305210	Abruzzi mare	1	0	Saline Aquifer without hydrocarbon fields					Adriatic offshore	Adria foredeep	Offshore	0	0		0		Italy	IT	14.33718326	42.729166	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 20, 2021 5:15:05 PM		
37	IT_F_202107211243 432735	Lombardia 1	1	0	Saline Aquifer without hydrocarbon fields					Po Plain	Po Plain	Onshore	0	0		0		Italy	IT	11.10673797	45.19828739	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	##### ##### ######		
37	IT_F_202107211409 520729	Lombardia 2	2	0	Saline Aquifer without hydrocarbon fields					Po Plain	Po Plain	Onshore	0	0		0		Italy	IT	9.360179448	45.55680488	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 21, 2021 2:09:20 PM		
38	IT_F_202107211622 401439	Calabria ionica	1	0	Saline Aquifer without hydrocarbon fields					Ionian offshore	Bradanic foredeep	Both	0	0		0		Italy	IT	17.16218795	39.1748896	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 21, 2021 4:22:01 PM		
38	IT_F_202107211638 721600	Bradanica	1	0	Saline Aquifer without hydrocarbon fields					Southern Italy	Bradanic foredeep	Onshore	0	0		0		Italy	IT	16.52616519	40.38162034	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 21, 2021 4:38:21 PM		
38	IT_F_202107211648 834112	Emilia mare	1	0	Saline Aquifer without hydrocarbon fields					Adriatic offshore	Adria foredeep	Offshore	0	0		0		Italy	IT	12.88784235	44.09634	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Jul 21, 2021 4:48:34 PM		
39	IT_F_202108021743 104621	Marche 1	2	0	Saline Aquifer without hydrocarbon fields					Central Italy	Apennine Fold and Thrust Belt	Onshore	0	0		0		Italy	IT	13.39850121	43.41197731	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	##### ##### ######		
39	IT_F_202108161444 405508	San Benedetto stoccaggio	1	0	Saline Aquifer with hydrocarbon fields					Central Italy	Apennine Fold and Thrust Belt	Onshore	0	0		0		Italy	IT	13.87570242	42.925674	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	##### ##### ######		
39	IT_F_202108301705<br																								

39	IT_F_202108021142	Molise 1	1	0	Saline Aquifer without hydrocarbon fields					Southern Italy	Apennine Fold and Thrust Belt	Onshore	0	0		0		Italy	IT	14.90112	1	41.913737	x: long - y: lat - WGS84	#####	#####		
31	IT_F_201210031749	Pandino 1 - Lombardia 2	1	0	Saline Aquifer without hydrocarbon fields	Neogene		Piacenzian		Sandstone	Po Plain	Po Plain	Onshore	0	0	clay	0		Italy	IT	9.463889	45.413611		x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Oct 03, 2012 5:49:05 PM		
31	IT_F_201210041634	Emilia 1	3	0	Saline Aquifer without hydrocarbon fields	Neogene		Zanclean		Sandstone	Po Plain	Apennine Fold and Thrust Belt	Onshore	0	0	clay	0		Italy	IT	11.66114	44.701713	6	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Oct 04, 2012 4:34:30 PM		
31	IT_F_201210091531	Filetto1 - Emilia 2	1	0	Saline Aquifer without hydrocarbon fields	Neogene		Gelasian		Sandstone	Po Plain	Apennine Fold and Thrust Belt	Onshore	0	0	clay	0		Italy	IT	12.07138	9	44.3225	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Oct 09, 2012 3:31:49 PM		
32	IT_F_201210101708	Sicilia 1	1	0	Saline Aquifer without hydrocarbon fields	Neogene		Tortonian		Sandstone	Sicily	Bradanic foredeep	Onshore	0	0	clay	0		Italy	IT	12.58428	137	37.787799	5	x: long y: lat WGS84_Web_Mercator_Auxiliary_Sphere	Oct 10, 2012 5:08:32 PM	
31	PL_F_201208061001	Lower Cretaceous	1	14	Saline Aquifer without hydrocarbon fields	Cretaceous	Cretaceous	Albian	Berriasian	Sandstone	Polish Lowlands	Polish Basin	Onshore	0	0		0		Poland	PL	0	0			Aug 06, 2012 10:01:26 AM		
31	PL_F_201208081127	Lower Jurassic	2	22	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Toarcian	Hettangian		Polish Lowlands	Polish Basin	Onshore	0	0		0		Poland	PL	0	0		ETRS89/Poland CS92	Aug 08, 2012 11:27:45 AM		
31	PL_F_201208081128	Lower Triassic	1	2	Saline Aquifer without hydrocarbon fields	Triassic	Triassic	Olenekian	Induan		Polish Lowlands	Polish Basin	Onshore	0	0		0		Poland	PL	0	0		ETRS89/Poland CS92	Aug 08, 2012 11:28:25 AM		
31	PL_F_201208212158	Middle Cambrian	1	1	Saline Aquifer with hydrocarbon fields	Cambrian	Cambrian	Guzhangian	Stage 5		Polish Lowlands	East-European Precambrian Platform	Onshore	0	0		0		Poland	PL	18.65561	536	54.062501	75	WGS 84 decimal	Aug 21, 2021 9:58:56 PM	
31	PL_F_202108212200	Neogene 1	1	6	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Messinian	Aquitanian		Carpathian Mountains	Carpathian Mountains	Onshore	0	0		0	Part of Neogene (equal to geological basin of Carpathian Mountains)	Poland	PL	20.95417	022	49.656251	67	WGS 84 decimal	Aug 21, 2021 10:00:36 PM	
31	PL_F_202108212205	Neogene 2	1	11	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Messinian	Aquitanian		Carpathian Foredeep	Carpathian Foredeep	Onshore	0	0		0	Part of Neogene (equal to geological basin of Carpathian Foredeep)	Poland	PL	21.53259	948	50.228592	08	WGS 84 decimal	Aug 21, 2021 10:05:11 PM	
31	PL_F_202108212206	Lower Cretaceous 1	1	2	Saline Aquifer with hydrocarbon fields	Cretaceous	Cretaceous	Albian	Berriasian		Carpathian Mountains	Carpathian Mountains	Onshore	0	0		0		Poland	PL	21.40805	353	49.646776	48	WGS 84 decimal	Aug 21, 2021 10:06:10 PM	
31	PL_F_202108212207	Paleogene	1	7	Saline Aquifer with hydrocarbon fields	Paleogene	Paleogene	Chattian	Danian		Carpathian Mountains	Carpathian Mountains	Onshore	0	0		0		Poland	PL	20.95417	022	49.656251	67	WGS 84 decimal	Aug 21, 2021 10:07:35 PM	
32	PL_F_202108212210	Permian 1	2	28	Saline Aquifer with hydrocarbon fields	Permian	Permian	Changhsingian	Asselian		Polish Lowlands	Fore-Sudetic Monocline	Onshore	0	0		0	Part of Permian (geological basin of Fore-Sudetic Monocline)	Poland	PL	16.68231	502	51.742531	45	WGS 84 decimal	Aug 21, 2021 10:10:16 PM	
32	PL_F_202108212210	Permian 2	1	2	Saline Aquifer with hydrocarbon fields	Permian	Permian	Changhsingian	Asselian		Polish Lowlands	Pomeranian-Kuyavian Swell	Onshore	0	0		0	Part of Permian (geological basin of Pomeranian-Kuyavian Swell)	Poland	PL	18.52122	03	52.524628	03	WGS 84 decimal	Aug 21, 2021 10:10:48 PM	
32	PL_F_202108212212	Permian 3	1	3	Saline Aquifer with hydrocarbon fields	Permian	Permian	Changhsingian	Asselian		Polish Lowlands	Szczecin-Łódź Trough	Onshore	0	0		0	Part of Permian (geological basin of Szczecin-Łódź Trough)	Poland	PL	18.08438	529	51.943549	45	WGS 84 decimal	Aug 21, 2021 10:12:02 PM	
32	PL_F_202108212212	Upper Triassic	1	1	Saline Aquifer with hydrocarbon fields	Triassic	Triassic	Rhaetian	Carnian		Carpathian Foredeep	Carpathian Foredeep	Onshore	0	0		0		Poland	PL	19.05155	231	52.546096	81	WGS 84 decimal	Aug 21, 2021 10:12:40 PM	
32	PL_F_202108212213	Upper Carboniferous	1	2	Saline Aquifer with hydrocarbon fields	Carboniferous	Carboniferous	Gzelian	Bashkirian		Polish Lowlands	Marginal Trough	Onshore	0	0		0		Poland	PL	17.82753	378	52.303513	12	WGS 84 decimal	Aug 21, 2021 10:13:05 PM	
32	PL_F_202108212213	Lower Carboniferous	1	1	Saline Aquifer with hydrocarbon fields	Carboniferous	Carboniferous	Serpukhovian	Tournasian		Polish Lowlands	Pomeranian-Kuyavian Swell	Onshore	0	0		0		Poland	PL	15.78108	713	53.946749	05	WGS 84 decimal	Aug 21, 2021 10:13:39 PM	
31	HR_F_20121003170	Sava Group	7	12	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Pontian		Sava Group	Sandstone	Pannonian region	Pannonian basin	Onshore	0	0	marl	0	Sava Group comprises Upper Miocene sequence of sandstones and marls in Sava and Drava depression	Croatia	HR	0	0			Oct 03, 2012 5:08:34 PM	
31	HR_F_20121025191	Moslavacka Gora Group	2	2	Saline Aquifer with hydrocarbon fields	Neogene	Neogene	Middle Miocene	Lower Miocene	Moslavacka Gora Group	Carbonate	Pannonian region	Pannonian basin	Onshore	0	0		0	Formation created only for purpose of adding HC daughter units	Croatia	HR	0	0			#####	#####
31	HR_F_20121026093	Moslavacka Gora Group/Base Tertiary	3	3	Saline Aquifer with hydrocarbon fields	Neogene	Permian	Middle Miocene			Pannonian region	Pannonian basin	Onshore	0	0		0	Formation created for purpose of adding HC daughter units, containing 2 lithostratigraphic groups, lithology: carbonate, quartzite	Croatia	HR	0	0				Oct 26, 2012 9:38:43 AM	
31	HR_F_20121026102	Ivana Fm/Mali Alan Fm	1	1	Saline Aquifer with hydrocarbon fields	Quaternary	Mesozoic	Pleistocene			Adriatic region	Adriatic basin	Offshore	0	0		0	Formation created for purpose of adding HC daughter units, containing 2 lithostratigraphic formations (VELIC & MALVIC, 2011), lithology: carbonate, sandstone	Croatia	HR	0	0				Oct 26, 2012 10:25:48 AM	
31	HR_F_20121026120	Ivana Fm	2	2	Saline Aquifer	Quaternary	Quaternary	Pleistocene	Pleistocene	Ivana	Sandstone	Adriatic region	Adriatic basin	Offshore	0	0		0	Formation created for purpose of adding HC	Croatia	HR	0	0				Oct 26, 2012 12:07:39 PM

				with hydrocarbon fields											daughter units, containing lithostratigraphic formation Ivana of Pleistocene age (after VELIC & MALVIC, 2011)										
31	HR_F_20121026123 7 711369	Sava Group/Moslavacka Gora Group/Base Tertiary	1	1	Saline Aquifer with hydrocarbon fields	Neogene	Upper Miocene				Pannonian region	Pannonian basin	Onshore	0	0	Formation created for purpose of adding HC daughter units, containing 3 lithostratigraphic units	Croatia	H R	0	0		Oct 26, 2012 12:37:11 PM			
32	HR_F_20210826160 0 926945	Rasa Fm	1	0	Saline Aquifer without hydrocarbon fields					Adriatic region	Adriatic basin	Offshore	0	0	0	Croatia	H R	0	0		##### #####				
32	HR_F_20210827131 2 726388	Mali Alan Fm	3	5	Saline Aquifer without hydrocarbon fields	Paleogene	Jurassic			Mali Alan Fm.	Adriatic region	Adriatic basin	Offshore	0	0	0	Croatia	H R	0	0		Aug 27, 2021 1:17:26 PM			
31	DK_F_20120905093 2 809222	Bunter Sandstone Formation	2	3	Saline Aquifer without hydrocarbon fields	Triassic	Triassic	Olenekian	Induan	Bunter Sandstone	Sandstone	Denmark	Danish Basin	Both	200	0.2	Ørslev Fm	100	Ref. Sec. Rødby-1 borehole (11,4 long, 57,7 lat)	Denmark	D K	638087.4 553	6542853.8 72	GESTCO	Sep 05, 2012 9:38:09 AM
31	DK_F_20120905113 3 052957	Gassum Formation	1	8	Saline Aquifer without hydrocarbon fields	Jurassic	Triassic	Sinemurian	Rhaetian	Gassum Fm	Sandstone	Denmark	Danish Basin	Both	130	20	Fjerritslev Fm	0		Denmark	D K	628501.4 715	6589364.6 36	GESTCO	Sep 05, 2012 11:30:52 AM
31	DK_F_20120905113 4 540120	Haldager Sand Formation	1	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Oxfordian	Aalenian	Haldager Sand Fm	Sandstone	Denmark	Danish Basin	Both	112	0	Flyvbjerg Fm, Børglum Fm	0		Denmark	D K	684312.3 381	6668674.6 75	GESTCO	Sep 05, 2012 11:35:40 AM
31	DK_F_20121002015 5 118518	Skagerrak Formation	1	3	Saline Aquifer without hydrocarbon fields	Triassic	Triassic	Rhaetian	Ladinian	Skagerrak Fm	Sandstone	Danish Basin	Danish Basin	Both	350	0.2	Oddesund Fm	200	Reference section lower part borehole D-1x, upper section borehole F-1x	Denmark	D K	652499.4 834	6672325.0 04	GESTCO	Oct 02, 2012 1:51:18 AM
31	DK_F_20210907145 6 443322	Frederikshavn Formation	1	0	Saline Aquifer without hydrocarbon fields	Cretaceous	Jurassic	Berriasian	Kimmeridgi an	Frederikshavn	Sandstone	Danish Basin	Danish Basin	Both	100	0.25	Vedsted Fm	100		Denmark	D K	617864.7 439	6597187.9 77	GESTCO	Sep 07, 2021 2:54:43 PM
31	DE_F_20120926141 2 820351	Upper Rotliegend 1	1	0	Saline Aquifer without hydrocarbon fields							German North Sea	North German Basin	Offshore	0	0	0	Polygon not available		Germany	D E	0	0	##### #####	
31	DE_F_20120926144 3 047198	Middle Buntsandstein 1	1	19	Saline Aquifer without hydrocarbon fields							German North Sea	North German Basin	Offshore	0	0	0	Polygon not available		Germany	D E	0	0	##### #####	
31	DE_F_20120926163 4 310973	Keuper	1	3	Saline Aquifer without hydrocarbon fields							German North Sea	North German Basin	Offshore	0	0	0	Polygon not available		Germany	D E	0	0	##### #####	
31	DE_F_20120926164 5 910997	Middle Jurassic 1	1	3	Saline Aquifer with hydrocarbon fields							German North Sea	North German Basin	Offshore	0	0	0	Polygon not available		Germany	D E	0	0	##### #####	
31	DE_F_20120927081 6 255310	Upper Rotliegend 2	1	10	Saline Aquifer with hydrocarbon fields							North German Plain	North German Basin	Onshore	0	0	0	Polygon represents the investigated area		Germany	D E	0	0	##### #####	
31	DE_F_20120927101 7 910147	Zechstein 2	1	21	Saline Aquifer with hydrocarbon fields							North German Plain	North German Basin	Onshore	0	0	0	Polygon not available		Germany	D E	0	0	##### #####	
31	DE_F_20120927142 8 849255	Middle Buntsandstein 2	1	7	Saline Aquifer with hydrocarbon fields							North German Plain	North German Basin	Onshore	0	0	0	Polygon not available		Germany	D E	0	0	##### #####	
31	DE_F_20120927145 9 437579	Upper Keuper and Lower Jurassic	1	0	Saline Aquifer without hydrocarbon fields							North German Plain	North German Basin	Onshore	0	0	0	Polygon represents the investigated area		Germany	D E	0	0	##### #####	
32	DE_F_20120927150 0 524060	Middle Jurassic 2	1	5	Saline Aquifer with hydrocarbon fields							North German Plain	North German Basin	Onshore	0	0	0	Polygon represents the investigated area		Germany	D E	0	0	##### #####	
32	DE_F_20120927152 1 738323	Lower Cretaceous	1	6	Saline Aquifer with hydrocarbon fields							North German Plain	North German Basin	Onshore	0	0	0	Polygon represents the investigated area		Germany	D E	0	0	##### #####	
32	DE_F_20120927154 2 821265	Rotliegend 2	1	0	Saline Aquifer without hydrocarbon fields							Central Uplands	Thuringian Basin	Onshore	0	0	0	Polygon not available		Germany	D E	0	0	##### #####	
33	DE_F_20120927164 4 212752	Middle Jurassic 3	1	0	Saline Aquifer without hydrocarbon fields							Alpine Foreland	South German Molasse Basin	Onshore	0	0	0	Polygon represents the investigated area		Germany	D E	0	0	##### #####	
33	DE_F_20120927164 5 334013	Lower Cretaceous (Aptian/Albian)	1	0	Saline Aquifer without hydrocarbon fields							Alpine Foreland	South German Molasse Basin	Onshore	0	0	0	Polygon represents the investigated area		Germany	D E	0	0	##### #####	
33	DE_F_20120927165 6 837917	Upper Cretaceous (Cenomanian)	1	0	Saline Aquifer without hydrocarbon fields							Alpine Foreland	South German Molasse Basin	Onshore	0	0	0	Polygon represents the investigated area		Germany	D E	0	0	##### #####	
32	DE_F_20120927155 3 607159	Zechstein 1	1	1	Saline Aquifer with hydrocarbon fields							Central Uplands	Thuringian Basin	Onshore	0	0	0	Polygon represents the investigated area		Germany	D E	0	0	##### #####	
32	DE_F_20120927161 4 301830	Rotliegend 1	1	0	Saline Aquifer without							Central Uplands	Hessian Depression	Onshore	0	0	0	Polygon not available		Germany	D E	0	0	##### #####	



32 5	NO_F_20210920151 726609	Fiskebank Formation	1	0	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene		Rogaland Group	Fiskebank Formation	Sandstone	Norwegian North Sea	Norwegian North Sea	Offshore	100	0.2	Balder Formation	0		Norway	NO	5.6603162	56.943412	ETRS 89	Sep 20, 2021 3:17:26 PM	
32 6	NO_F_20210920152 041921	Heimdal Formation	1	3	Saline Aquifer with hydrocarbon fields	Paleogene	Paleogene		Rogaland Group	Heimdal Formation	Sandstone	Norwegian North Sea	Norwegian North Sea	Offshore	180	0.28	Lista Formation	50		Norway	NO	2.3624192	59.4549346	ETRS 89	Sep 20, 2021 3:20:42 PM	
32 7	NO_F_20210920152 420197	Hugin Formation	1	0	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Oxfordian	Bathonian	Vestland Group	Hugin	Sandstone	Norwegian North Sea	Norwegian North Sea	Offshore	100	0.2	Heather Formation	0		Norway	NO	0	0	ETRS 89	Sep 20, 2021 3:24:20 PM
32 8	NO_F_20210920153 029729	Bryne/Sandnes Fm	1	2	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Kimmeridgian	Bajocian	Vestland Group	Bryne/Sandnes Formation	Sandstone	Norwegian North Sea	Norwegian North Sea	Offshore	100	0.2	Boknafjord Group	500		Norway	NO	3.8784515	58.0381705	ETRS 89	Sep 20, 2021 3:30:29 PM
33 0	NO_F_20220117153 706122	Statfjord Group	1	0	Saline Aquifer with hydrocarbon fields	Jurassic	Triassic	Sinemurian	Rhaetian	Statfjord		Sandstone	Norwegian North Sea	Norwegian North Sea	Offshore	200	0.22	Dunlin Group	150		Norway	NO	2.8929539	59.9982703	ETRS 89	Jan 17, 2022 3:37:06 PM
33 1	NO_F_20220119172 612296	Statfjord Group	1	0	Saline Aquifer with hydrocarbon fields	Jurassic	Triassic	Sinemurian	Rhaetian	Statfjord		Sandstone	Norwegian North Sea	Norwegian North Sea	Offshore	140	0.22	Amundsen Formation	200		Norway	NO	2.9848826	59.8489353	ETRS 89	Jan 19, 2022 5:26:12 PM
32 4	ES_F_20210916122 335000	Arenas de base de la Secuencia Bética	1	1	Saline Aquifer without hydrocarbon fields	Neogene	Neogene	Tortonian	Tortonian			Sandstone	Bethic Chain	Bethic Chain	Onshore	22	0.2	Blue Marls	1000		Spain	ES	338246.6535	4177085.235	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
32 5	ES_F_20210916122 335009	Mesozoic	2	4	Saline Aquifer without hydrocarbon fields	Cretaceous	Triassic	Albian	Induan			Mixed	Bethic Chain	Bethic Chain	Onshore	1200	0.0811	Blue Marls/Olistostrome	800		Spain	ES	4761122.919	4193724.398	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
32 6	ES_F_20210916122 335017	Arenisca de Manuel	3	3	Saline Aquifer without hydrocarbon fields	Triassic	Triassic	Carnian	Carnian			Sandstone	Bethic Chain	Bethic Chain	Onshore	147	0.13	Keuper and Lower Liassic	500		Spain	ES	617651.2171	4307634.967	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
32 7	ES_F_20210916122 335026	Dogger (J2)	4	4	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Callovian	Hettangian			Carbonate	Bethic Chain	Bethic Chain	Onshore	473	0.07	Malm and Neocomian	75		Spain	ES	4761122.919	4193724.398	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
32 8	ES_F_20210916122 335035	Kimmeridgian (J3)	2	2	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Tithonian	Kimmeridgian			Carbonate	Bethic Chain	Bethic Chain	Onshore	370	0.07	Lower Cretaceous	800		Spain	ES	703192.4781	4271368.486	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
32 9	ES_F_20210916122 335043	Cretaceous	1	1	Saline Aquifer without hydrocarbon fields	Cretaceous	Cretaceous	Santonian	Albian			Mixed	Bethic Chain	Bethic Chain	Onshore	1300	0.09	Upper Cretaceous/Paleogene	800		Spain	ES	607697.6536	4226435.664	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 0	ES_F_20210916122 335052	Buntsandstein (T1)	1	1	Saline Aquifer without hydrocarbon fields	Jurassic	Triassic	Ladinian	Changhsingian			Sandstone	Bethic Chain	Bethic Chain	Onshore	100	0.15	Röt and Keuper Formation	840	Bethic Chain	Spain	ES	554710.2785	4328387.337	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 1	ES_F_20210916122 335060	Muschelkalk (M3)	1	1	Saline Aquifer without hydrocarbon fields	Triassic	Triassic	Ladinian	Ladinian			Carbonate	Bethic Chain	Bethic Chain	Onshore	30	0.07	Keuper Facies	710	Bethic Chain	Spain	ES	549475.0862	4319963.701	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 2	ES_F_20210916122 335069	Gres de Silves (T)	1	1	Saline Aquifer without hydrocarbon fields	Jurassic	Triassic	Ladinian	Induan			Sandstone	Bethic Chain	Bethic Chain	Onshore	269	0.15	Keuper and Blue Marls	66		Spain	ES	189158.2904	4125045.764	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 3	ES_F_20210916122 335078	Upper Cretaceous	1	1	Saline Aquifer without hydrocarbon fields	Cretaceous	Cretaceous	Campanian	Cenomanian			Carbonate	Bethic Chain	Bethic Chain	Onshore	213	0.0915	Garum Facies	222	Bethic Chain	Spain	ES	289222.417	4030612.728	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 4	ES_F_20210916122 335086	Prebetic Lias	1	1	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Toarcian	Hettangian			Carbonate	Bethic Chain	Bethic Chain	Onshore	175	0.05	Marty Lias	173		Spain	ES	422259.2531	4169502.579	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 5	ES_F_20210916122 335095	Atalaya Unit	1	1	Saline Aquifer without hydrocarbon fields	Neogene	Neogene	Tortonian	Serravallian			Sandstone	Bethic Chain	Bethic Chain	Onshore	239	0.02	Miocene Tortonian Unit IV	75		Spain	ES	700346.1452	4216595.583	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 6	ES_F_20210916122 335104	Lower Jurassic (Lias)	6	6	Saline Aquifer without hydrocarbon fields	Jurassic	Triassic	Pliensbachian	Rhaetian			Carbonate	Duero Basin	Duero Basin	Onshore	146	0.1	Marly Lias	50	Duero Basin	Spain	ES	502857.988	4756557.756	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 7	ES_F_20210916122 335112	Buntsandstein (T1)	8	5	Saline Aquifer without hydrocarbon fields	Triassic	Permian	Anisian	Changhsingian			Mixed	Duero Basin	Duero Basin	Onshore	275	0.05	Keuper Facies	120	Duero Basin	Spain	ES	443028.1696	4697411.763	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 8	ES_F_20210916122 335121	Utrillas Fm	10	5	Saline Aquifer without hydrocarbon fields	Cretaceous	Cretaceous	Cenomanian	Albian			Sandstone	Duero Basin	Duero Basin	Onshore	237	0.16	Cenomanian	500		Spain	ES	357591.7234	4643226.048	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
33 9	ES_F_20210916122 335130	Pre and sin-orogenic marine tertiary	1	0	Saline Aquifer without hydrocarbon fields	Paleogene	Cretaceous	Ypresian	Maastrichtian			Carbonate	Duero Basin	Duero Basin	Onshore	1700	0.1	Paleogene-Neogene	1000		Spain	ES	549561.1262	4727276.517	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
34 0	ES_F_20210916122 335138	Upper Cretaceous carbonate	5	0	Saline Aquifer without hydrocarbon fields	Cretaceous	Cretaceous	Maastrichtian	Albian			Carbonate	Duero Basin	Duero Basin	Onshore	187	0.07	Paleogene-Neogene	1500		Spain	ES	386153.1832	4651450.157	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
34 1	ES_F_20210916122 335147	Iglesias-J	2	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Toarcian	Hettangian			Carbonate	Duero Basin	Duero Basin	Onshore	165	0.05	Dogger Marls-Utrillas Formation	1520		Spain	ES	449283.3866	4645519.255	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM
34 2	ES_F_20210916122 335156	Upper Cretaceous	1	0	Saline Aquifer	Cretaceous	Cretaceous	Cretaceous	Turonian	Aptian		Carbonate	Duero Basin	Duero Basin	Onshore	300	0.05	Garum Facies	1000	Duero Basin	Spain	ES	386323.4458	4651277.645	ETRS 1989 UTM Zone 30N	Sep 16, 2021 12:23:35 PM



				hydrocarbon fields																						
31 2	GB_F_20120814115 147401	Bunter Sandstone Formation	1	8	Saline Aquifer with hydrocarbon fields	Triassic	Triassic	Olenekian	Olenekian	Bacton Group	Bunter Sandstone Formation	Sandstone	Southern North Sea	Southern North Sea Basin (UK)	Offshore	230	0	Haisborough Group	0	United Kingdom	G B	386689.0 168	5986302.8 2	WGS84 UTM31N	Aug 14, 2012 11:51:47 AM	
31 3	GB_F_20120814121 450744	Leman Sandstone Formation	1	86	Saline Aquifer with hydrocarbon fields	Permian	Permian	Wuchiapinjian	Wordian	Rotliegend Group	Leman Sandstone Formation	Sandstone	Southern North Sea	Southern North Sea Basin (UK)	Offshore	122	0	Zechstein Group	0	United Kingdom	G B	411120.5 329	5918759.0 85	WGS84 UTM31N	Aug 14, 2012 12:14:50 PM	
31 4	GB_F_20120814133 957323	Spilsby Sandstone Formation	4	1	Saline Aquifer without hydrocarbon fields	Cretaceous	Jurassic	Berriasian	Tithonian	Cromer Knoll Group	Spilsby Sandstone Formation	Sandstone	Southern North Sea	Southern North Sea Basin (UK)	Offshore	0	0	Cromer Knoll Group mudstones	0	United Kingdom	G B	399931.2 891	5872574.9 94	WGS84 UTM31N	Aug 14, 2012 1:39:57 PM	
31 5	GB_F_20120814145 039305	Hewett Sandstone	1	1	Saline Aquifer with hydrocarbon fields	Triassic	Triassic	Olenekian	Olenekian	Bacton Group	Bunter Shale Formation	Sandstone	Southern North Sea	Southern North Sea Basin (UK)	Offshore	26	0	Bunter Shale Formation	0	United Kingdom	G B	439146.3 581	5845545.4 99	WGS84 UTM31N	Aug 14, 2012 2:50:39 PM	
31 6	GB_F_20120928153 551690	Frigg Sandstone Member	1	3	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Bartonian	Ypresian	Stronsay Group	Horda Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	55	29	Horda Formation	0	Frigg gas field crosses UK/Norway median line	United Kingdom	G B	432895.4 86	6681114.2 26	WGS84 UTM31N	Sep 28, 2012 3:35:51 PM
31 7	GB_F_20121001090 526111	Forries Sandstone Member	1	12	Saline Aquifer with hydrocarbon fields	Paleogene	Paleogene	Ypresian	Ypresian	Moray Group	Sele Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Sele Formation	0	United Kingdom	G B	399861.9 788	6363865.3 51	WGS84 UTM31N	Oct 01, 2012 9:05:26 AM	
31 8	GB_F_20121001122 058809	Heimdal Sandstone Member	1	0	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Thanetian	Selandian	Montrose Group	Lista Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Lista Formation	0	United Kingdom	G B	409531.3 044	6623983.3 77	WGS84 UTM31N	Oct 01, 2012 12:20:58 PM	
31 9	GB_F_20121001122 606753	Tay Sandstone Member	1	5	Saline Aquifer with hydrocarbon fields	Paleogene	Paleogene	Lutetian	Ypresian	Stronsay Group	Horda Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Horda Formation	0	United Kingdom	G B	375110.2 42	6344996.6 83	WGS84 UTM31N	Oct 01, 2012 12:26:06 PM	
32 8	GB_F_20121005120 031531	Maureen Formation	1	2	Saline Aquifer with hydrocarbon fields	Paleogene	Paleogene	Selandian	Selandian	Montrose Group	Maureen Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Maureen Formation	0	United Kingdom	G B	370741.1 477	6454844.5 44	WGS84 UTM31N	Oct 05, 2012 12:00:31 PM	
32 9	GB_F_20121005161 801711	Balder Formation	1	6	Saline Aquifer with hydrocarbon fields	Paleogene	Paleogene	Ypresian	Ypresian	Moray Group	Horda Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Horda Formation	0	United Kingdom	G B	400070.2 786	6458630.4 19	WGS84 UTM31N	Oct 05, 2012 4:18:01 PM	
33 0	GB_F_20121023091 511294	Collyhurst Sandstone Formation	3	1	Saline Aquifer without hydrocarbon fields	Permian	Permian	Wuchiapinjian	Wordian	Appleby Group	Collyhurst Sandstone Formation	Sandstone	Onshore UK	Bowland Basin	Onshore	0	0	Manchester Marl Formation/St Bees Evaporite Formation	0	United Kingdom	G B	60891.17 941	5986425.0 45	WGS84 UTM31N	Oct 23, 2012 9:15:11 AM	
33 1	GB_F_20121023094 810109	Channel Sherwood Sandstone Group	1	1	Saline Aquifer with hydrocarbon fields	Triassic	Triassic	Anisian	Olenekian	Sherwood Sandstone Group	Otter Sandstone Formation	Sandstone	English Channel	Portland-Wight Basin	Offshore	150	20	Mercia Mudstone Group	0	Includes offshore part of Wytch Farm oil field	United Kingdom	G B	159580.6 711	5600602.4 43	WGS84 UTM31N	Oct 23, 2012 9:48:10 AM
33 2	GB_F_20121023100 727977	St Bees Sandstone Formation	1	0	Saline Aquifer without hydrocarbon fields	Triassic	Triassic	Olenekian	Indian	Sherwood Sandstone Group	St Bees Sandstone Formation	Sandstone	Irish Sea	East Irish Sea Basin	Offshore	0	0	Mercia Mudstone Group	0	Lies Directly beneath the Ormskirk so Primary Seal would be Mercia Mudstone Group	United Kingdom	G B	56224.71 426	6010294.3 28	WGS84 UTM31N	Oct 23, 2012 10:07:27 AM
33 3	GB_F_20121023113 956942	Plattendolomit Formation	1	1	Saline Aquifer with hydrocarbon fields	Permian	Permian	Changhsingian	Wuchiapinjian	Zechstein Group	Plattendolomit Formation	Carbonate	Southern North Sea	Southern North Sea Basin (UK)	Offshore	55	0	Hauptanhidrit Formation/Leine Halite Formation	0	Only a reservoir round the western/southern margins of the SNS Basin	United Kingdom	G B	395063.1 698	5995815.0 88	WGS84 UTM31N	Oct 23, 2012 11:39:56 AM
33 4	GB_F_20121023140 417423	Bridport Sands	1	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Toarcian	Toarcian	Lias Group	Bridport Sands	Sandstone	English Channel	Portland-Wight Basin	Offshore	0	0	Fuller's Earth	0	The Wytch Farm oilfield is included in database as a daughter of the Channel Sherwood Sandstone Storage Unit	United Kingdom	G B	119327.8 677	5601294.8 52	WGS84 UTM31N	Oct 23, 2012 2:04:17 PM
33 5	GB_F_20121023150 347573	Westcoe Coal Formation	1	2	Saline Aquifer with hydrocarbon fields	Carboniferous	Carboniferous	Moscovian	Bashkirian	Conybear Group	Westcoe Coal Formation	Siltstone	Southern North Sea	Southern North Sea Basin (UK)	Offshore	0	0	Silverpit Shales/Westphalian B Shales	0	United Kingdom	G B	430159.5 728	5918641.8 72	WGS84 UTM31N	Oct 23, 2012 3:03:47 PM	
33 6	GB_F_20121023154 100792	Schooner Formation	4	7	Saline Aquifer with hydrocarbon fields	Carboniferous	Carboniferous	Moscovian	Moscovian	Conybear Group	Schooner Formation	Siltstone	Southern North Sea	Southern North Sea Basin (UK)	Offshore	0	0	Silverpit Formation Shales	0	The Schooner Formation is an interbedded siltstone/mudstone/sandstone	United Kingdom	G B	425715.2 095	5993725.9 87	WGS84 UTM31N	Oct 23, 2012 3:41:00 PM
33 7	GB_F_20121023162 139261	Millstone Grit Formation	1	2	Saline Aquifer with hydrocarbon fields	Carboniferous	Carboniferous	Bashkirian	Serpukhovian	Whitehurst Group	Millstone Grit Formation	Sandstone	Southern North Sea	Southern North Sea Basin (UK)	Offshore	0	0	Silverpit Formation Shales	0	United Kingdom	G B	387349.9 551	5975455.9 08	WGS84 UTM31N	Oct 23, 2012 4:21:39 PM	
33 8	GB_F_20121024102 241899	Mey Sandstone Member	1	6	Saline Aquifer with hydrocarbon fields	Paleogene	Paleogene	Thanetian	Selandian	Montrose Group	Lista Formation	Sandstone	Atlantic Margin	Faroe-Shetland Basin	Offshore	135	0	Lista Formation	0	United Kingdom	G B	352458.3 725	6421051.7 64	WGS84 UTM31N	Oct 24, 2012 10:22:41 AM	
33 9	GB_F_20121024133 344270	Dornoch Formation	1	1	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Ypresian	Ypresian	Moray Group	Dornoch Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	300	30	Horda Formation	0	United Kingdom	G B	333403.3 859	6519652.6 94	WGS84 UTM31N	Oct 24, 2012 1:33:44 PM	
34 0	GB_F_20121024140 052366	Grid Sandstone Member	1	0	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Priabonian	Ypresian	Stronsay Group	Horda Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Lark Fm (Brodie Sandstone) or Horda Fm (Caran Sandstone)	0	United Kingdom	G B	400632.7 904	6570704.4 61	WGS84 UTM31N	Oct 24, 2012 2:00:52 PM	
34 1	GB_F_20121024143 756736	Cormorant Formation	1	0	Saline Aquifer without hydrocarbon fields	Triassic	Triassic	Norian	Induan	Heron Group	Cormorant Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Cormorant Formation/Dunlin Group	0	Extensive carbonate cementation in Cormorant field; Formation consists of interbedded mudstones and sandstones and is compartmentalised. Therefore pressure capacity estimation method is most appropriate.	United Kingdom	G B	410170.8 088	6741830.4 41	WGS84 UTM31N	Oct 24, 2012 2:37:56 PM

34 2	GB_F_20130205120 837511	Skagerrak Formation	6	2	Saline Aquifer with hydrocarbon fields	Triassic	Triassic	Rhaetian	Anisian	Heron Group	Skagerrak Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	0	0	Kimmeridge Clay Formation	0		United Kingdom	G B	400271.7 427	6374811.0 8	WGS84 UTM31N	Feb 05, 2013 12:08:37 PM
34 3	GB_F_20130205120 903981	Hopeman Sandstone Formation	1	0	Saline Aquifer with hydrocarbon fields	Triassic	Permian	Olenekian	Changhsingian	Heron Group	Hopeman Sandstone Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Both	0	0	Stofield Calcrite/Golspie Formation	0		United Kingdom	G B	167454.5 537	6465748.7 72	WGS84 UTM31N	Feb 05, 2013 12:09:03 PM
34 4	GB_F_20130205121 107108	Hugin Formation	3	1	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Oxfordian	Aalenian	Fladen Group	Hugin Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	150	0	Heather Formation	0		United Kingdom	G B	362630.5 862	6709035.7 61	WGS84 UTM31N	Feb 05, 2013 12:11:07 PM
34 5	GB_F_20130205121 126905	Magnus Sandstone Member	1	1	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Tithonian	Kimmeridgian	Humber Group	Kimmeridge Clay Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	100	22	Kimmeridge Clay Formation	0		United Kingdom	G B	413625.9 938	6837170.7 55	WGS84 UTM31N	Feb 05, 2013 12:11:26 PM
34 6	GB_F_20130205153 836645	Burns Sandstone Member	1	1	Saline Aquifer without hydrocarbon fields	Cretaceous	Jurassic	Berriasian	Kimmeridgian	Humber Group	Kimmeridge Clay Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	300	0	Kimmeridge Clay Formation mudstones	0		United Kingdom	G B	223418.9 185	6465609.7 16	WGS84 UTM31N	Feb 05, 2013 3:38:36 PM
34 7	GB_F_20130205154 104458	Claymore Sandstone Member	1	1	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Tithonian	Kimmeridgian	Humber Group	Kimmeridge Clay Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	150	0	Kimmeridge Clay Formation	0		United Kingdom	G B	327952.3 332	6474754.4 9	WGS84 UTM31N	Feb 05, 2013 3:41:04 PM
34 8	GB_F_20130205154 316724	Fulmar Formation	1	12	Saline Aquifer with hydrocarbon fields	Cretaceous	Jurassic	Berriasian	Callovian	Humber Group	Fulmar Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	100	0	Heather/Kimmeridge Clay Formations	0		United Kingdom	G B	413902.4 173	6312951.9 74	WGS84 UTM31N	Feb 05, 2013 3:43:16 PM
34 9	GB_F_20130205161 230788	Bræ Formation	3	10	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Tithonian	Oxfordian	Humber Group	Bræ Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	300	0	Kimmeridge Clay Formation	0	Contains S, C, N and E Bræ and Miller fields	United Kingdom	G B	406378.3 137	6506591.2 88	WGS84 UTM31N	Feb 05, 2013 4:12:30 PM
35 0	GB_F_20130205161 428462	Mains Formation	1	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Sinemurian	Hettangian	Dunrobin Bay Group	Mains Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	0	0	Ladies Walk Formation	0		United Kingdom	G B	152645.8 146	6446144.8 06	WGS84 UTM31N	Feb 05, 2013 4:14:28 PM
35 1	GB_F_20130205161 649119	Orrin Formation	1	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Toarcian	Pliensbachian	Dunrobin Bay Group	Orrin Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	0	0	Ladies Walk Formation	0		United Kingdom	G B	142690.1 417	6457865.2 34	WGS84 UTM31N	Feb 05, 2013 4:16:49 PM
35 2	GB_F_20130205161 824479	Statfjord Formation	2	1	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Sinemurian	Hettangian	Banks Group	Statfjord Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	200	22	Darwin Formation	0		United Kingdom	G B	428124.0 762	6692647.6 32	WGS84 UTM31N	Feb 05, 2013 4:18:24 PM
35 3	GB_F_20130205162 004558	Nansen Formation	2	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Pliensbachian	Hettangian	Banks Group	Nansen Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	50	15	Darwin Formation	0		United Kingdom	G B	414566.9 398	6742797.8 02	WGS84 UTM31N	Feb 05, 2013 4:20:04 PM
35 4	GB_F_20130205162 140527	Argyll Carbonate Member	1	1	Saline Aquifer with hydrocarbon fields	Permian	Permian		Zechstein Group	Halibut Carbonate Formation	Carbonate	Central/North Sea	Northern and Central North Sea Basin	Offshore	20	0	Iris Anhydrite Member/Turbot Anhydrite Formation	0	The Argyll Carbonate Member is part of the Zechstein Z1 cycle. It forms a reservoir in the Argyll oil field. It has reservoir characteristics because it has been dolomitised and contains collapse breccia features.	United Kingdom	G B	474134.0 659	6163375.6 48	WGS84 UTM31N	Feb 05, 2013 4:21:40 PM	
35 5	GB_F_20130205162 935590	Innes Carbonate Member	4	0	Saline Aquifer with hydrocarbon fields	Permian	Permian	Changhsingian	Roadian	Zechstein Group	Halibut carbonate Formation	Carbonate	Central/North Sea	Northern and Central North Sea Basin	Offshore	0	0	Turbot Anhydrite Formation	0		United Kingdom	G B	390607.6 446	6334664.9 62	WGS84 UTM31N	Feb 05, 2013 4:29:35 PM
35 6	GB_F_20130205163 046668	Auk Formation	1	2	Saline Aquifer with hydrocarbon fields	Permian	Permian			Rotliegend Group	Auk Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	150	0	Kupferschiefer Formation	0	The Auk Formation forms a reservoir in the Auk and Argyll oil fields	United Kingdom	G B	406909.4 381	6367153.5 36	WGS84 UTM31N	Feb 05, 2013 4:30:46 PM
35 7	GB_F_20130205163 224840	Firth Coal Formation	3	0	Saline Aquifer without hydrocarbon fields	Carboniferous	Carboniferous	Serpukhovian	Tournasian		Firth Coal Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	400	5	Predominantly Permian strata	0	Poorly known throughout most of its distribution	United Kingdom	G B	332920.4 26	6445400.0 42	WGS84 UTM31N	Feb 05, 2013 4:32:24 PM
35 8	GB_F_20130205163 317778	Buchan Formation	1	2	Saline Aquifer with hydrocarbon fields	Carboniferous	Devonian	Serpukhovian	Frasnian	Upper Old Red Sandstone Group	Buchan Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	500	0	Cromer Knoll Gp mudstones	0		United Kingdom	G B	393751.7 477	6375715.3 47	WGS84 UTM31N	Feb 05, 2013 4:33:17 PM
35 9	GB_F_20130205164 257309	Brent Group	1	20	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Bathonian	Aalenian	Brent Group		Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	0	0	Heather/Kimmeridge Clay Fms	0	Widespread reservoir formation containing numerous oil fields in the East Shetland Basin	United Kingdom	G B	411170.4 631	6776291.2 48	WGS84 UTM31N	Feb 05, 2013 4:42:57 PM
36 0	GB_F_20130206160 430414	Orcadia Formation	1	0	Saline Aquifer without hydrocarbon fields	Devonian	Devonian	Givetian	Eifelian	Middle Old Red Group	Orcadia Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	500	5	Highly variable	0		United Kingdom	G B	260480.5 853	6497075.8 27	WGS84 UTM31N	Feb 06, 2013 4:04:30 PM
36 1	GB_F_20130206160 605024	Strath Rory Formation	1	0	Saline Aquifer without hydrocarbon fields	Devonian	Devonian	Givetian	Eifelian	Middle Old Red Group	Strath Rory Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	100	3		0		United Kingdom	G B	224327.3 114	6457791.0 69	WGS84 UTM31N	Feb 06, 2013 4:06:05 PM
36 2	GB_F_20130206160 745212	Stroma Member	2	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Oxfordian	Oxfordian	Fladen Group	Pentland Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	25	0	Heather Formation	0		United Kingdom	G B	310307.6 332	6447122.2 38	WGS84 UTM31N	Feb 06, 2013 4:07:45 PM
36 3	GB_F_20130206161 020134	Findhorn Formation	1	0	Saline Aquifer without hydrocarbon fields	Permian	Permian	Kungurian	Asselian	Rotliegend Group	Findhorn Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	300	20	Bosies Bank/Turbot Anhydrite Fms	0		United Kingdom	G B	211721.5 501	6475516.8 74	WGS84 UTM31N	Feb 06, 2013 4:10:20 PM
36 4	GB_F_20130206161 249399	Beatrice Formation	1	1	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Callovian	Hettangian	Fladen Group	Beatrice Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	200	0	Heather Formation	0		United Kingdom	G B	165911.6 132	6458358.3 28	WGS84 UTM31N	Feb 06, 2013 4:12:49 PM

36 5	GB_F_20130206161 745055	Alness Spiculite Member	1	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Oxfordian	Oxfordian	Humber Group	Heather Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	50	0	Heather Formation mudstones	0	Fair porosity but negligible permeability so little if any	United Kingdom	G B	192140.1 406	6462562.3 58	WGS84 UTM31N	Feb 06, 2013 4:17:45 PM
36 6	GB_F_20130206161 952884	Emerald Formation	1	1	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Callovian	Bathonian	Humber Group	Emerald Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	15	25	Heather/Kimmeridge Clay Formation mudstones	0	Thin transgressive sandstone on fault block between East Shetland Platform and East Shetland Basin.	United Kingdom	G B	393113.0 396	6723517.0 32	WGS84 UTM31N	Feb 06, 2013 4:19:52 PM
36 7	GB_F_20130206162 018743	Piper Formation	1	10	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Kimmeridgian	Kimmeridgian	Humber Group	Piper Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	150	0	Kimmeridge Clay/Cromer Knoll Group	0		United Kingdom	G B	319523.6 667	6491114.4 61	WGS84 UTM31N	Feb 06, 2013 4:20:18 PM
36 8	GB_F_20130206162 219571	Wick Sandstone Formation	3	2	Saline Aquifer with hydrocarbon fields	Cretaceous	Cretaceous	Albian	Berriasian	Cromer Knoll Group	Wick Sandstone Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	200	15	Cromer Knoll Group mudstones	0	Includes the Punt, Coracle and Captain Sandstone Members	United Kingdom	G B	208025.9 353	6473796.4 62	WGS84 UTM31N	Feb 06, 2013 4:22:19 PM
36 9	GB_F_20130206162 407493	Britannia Sandstone Formation	1	1	Saline Aquifer with hydrocarbon fields	Cretaceous	Cretaceous	Aptian	Barremian	Cromer Knoll Group	Britannia Sandstone Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	100	15	Cromer Knoll Group mudstones	0		United Kingdom	G B	379310.0 124	6429117.1 23	WGS84 UTM31N	Feb 06, 2013 4:24:07 PM
37 0	GB_F_20130206165 523342	Bruce Sandstone Member	3	1	Saline Aquifer with hydrocarbon fields	Jurassic	Jurassic	Oxfordian	Callovian	Humber Group	Heather Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	60	0	Heather/Kimmeridge Clay Formations	0		United Kingdom	G B	417118.9 085	6608717.5 5	WGS84 UTM31N	Feb 06, 2013 4:55:23 PM
37 1	GB_F_20130206165 757308	Ling Sandstone Member	1	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Callovian	Callovian	Humber Group	Heather Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	120	0	Heather Formation mudstones	0		United Kingdom	G B	405544.6 34	6509712.4 68	WGS84 UTM31N	Feb 06, 2013 4:57:57 PM
37 2	GB_F_20130206165 945112	Birch Sandstone Member	1	1	Saline Aquifer with hydrocarbon fields	Cretaceous	Cretaceous	Berriasian	Berriasian	Humber Group	Kimmeridge Clay Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	60	10	Cromer Knoll Group mudstones	0	Confined to a small part of Block 16/12	United Kingdom	G B	402006.7 407	6494166.4 87	WGS84 UTM31N	Feb 06, 2013 4:59:45 PM
37 3	GB_F_20130206170 839826	Brora Coal Formation	1	0	Saline Aquifer without hydrocarbon fields	Jurassic	Jurassic	Bathonian	Bajocian	Fladen Group	Brora Coal Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Both	100	0	Heather Formation	0	Probably part of same hydraulic unit as Beatrice Formation	United Kingdom	G B	135861.9 649	6450646.2 77	WGS84 UTM31N	Feb 06, 2013 5:08:39 PM
37 4	GB_F_20130318140 801792	Zechsteinkalk Formation	1	1	Saline Aquifer with hydrocarbon fields	Permian	Permian	Sakmarian	Asselian	Zechstein Group	Zechsteinkalk Formation	Carbonate	Southern North Sea	Southern North Sea Basin (UK)	Offshore	0	0	Zechstein salt/Bunter Shale	0		United Kingdom	G B	413331.1 668	5862940.3 91	WGS84 UTM31N	Mar 18, 2013 2:08:01 PM
37 7	GB_F_2022_200	Yoredale Formation	1	1	Saline Aquifer with hydrocarbon fields								Southern North Sea	Southern North Sea Basin (UK)	Offshore	0	0		0		United Kingdom	G B	0	0		Feb 03, 2022 12:07:22 PM
37 8	GB_F_2022_201	Caister Coal Formation	1	3	Saline Aquifer with hydrocarbon fields								Southern North Sea	Southern North Sea Basin (UK)	Offshore	0	0		0		United Kingdom	G B	0	0		Feb 03, 2022 12:13:57 PM
37 9	GB_F_2022_202	Nauchlan Member	1	1	Saline Aquifer with hydrocarbon fields								Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0		0		United Kingdom	G B	0	0		Feb 03, 2022 12:16:16 PM
38 0	GB_F_2022_203	Joanne Sandstone Member	1	1	Saline Aquifer with hydrocarbon fields								Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0		0		United Kingdom	G B	0	0		Feb 03, 2022 12:18:53 PM
38 1	GB_F_2022_204	Erskine Sandstone Formation	1	1	Saline Aquifer with hydrocarbon fields											0	0		0		United Kingdom	G B	0	0		Feb 03, 2022 12:26:16 PM
38 2	GB_F_2022_205	Lewis Sandstone Member	1	1	Saline Aquifer with hydrocarbon fields											0	0		0		United Kingdom	G B	0	0		Feb 03, 2022 12:41:44 PM
38 3	GB_F_2022_206	Solan Sandstone Member	1	1	Saline Aquifer with hydrocarbon fields										Offshore	0	0		0		United Kingdom	G B	0	0		Feb 03, 2022 12:48:22 PM
40 8	GB_F_20220208124 255060	Oaks Rock Formation	1	2	Saline Aquifer with hydrocarbon fields								Onshore UK	Northern and Central North Sea Basin	Onshore	0	0		0		United Kingdom	G B	0	0		Feb 08, 2022 12:42:55 PM
40 9	GB_F_20220208133 632615	Great Oolite Group	1	6	Saline Aquifer with hydrocarbon fields								Onshore UK	Weald and Wessex basins	Onshore	0	0		0		United Kingdom	G B	0	0		Feb 08, 2022 1:36:32 PM
41 0	GB_F_20220209111 453858	Ashover Formation	1	2	Saline Aquifer with hydrocarbon fields								Onshore UK	Southern North Sea Basin (UK)		0	0		0		United Kingdom	G B	0	0		Feb 09, 2022 11:14:54 AM
41 2	GB_F_20220211134 715190	Beacon Hill Flags Formation	1	1	Saline Aquifer with hydrocarbon fields								Onshore UK	East Midlands basin	Onshore	0	0		0		United Kingdom	G B	0	0		Feb 11, 2022 1:47:15 PM
41 3	GB_F_20220211135 507923	Corallian	2	2	Saline Aquifer with hydrocarbon fields								Onshore UK		Onshore	0	0		0		United Kingdom	G B	0	0		Feb 11, 2022 1:55:08 PM
41 5	GB_F_20220211140 149711	Eagle Sandstone Formation	1	2	Saline Aquifer with hydrocarbon fields								Onshore UK	East Midlands basin	Onshore	0	0		0		United Kingdom	G B	0	0		Feb 11, 2022 2:01:50 PM
41 6	GB_F_20220211142 326390	Kirkham Abbey Formation	1	4	Saline Aquifer with hydrocarbon fields								Onshore UK	Cleveland Basin	Onshore	0	0		0		United Kingdom	G B	0	0		Feb 11, 2022 2:23:26 PM
41 9	GB_F_20220211144 201180	Mexborough Rock Formation	1	1	Saline Aquifer with hydrocarbon fields								Onshore UK	East Midlands basin	Onshore	0	0		0		United Kingdom	G B	0	0		Feb 11, 2022 2:42:01 PM
42 0	GB_F_20220211144 551531	Purbeck Sandstone Formation	1	1	Saline Aquifer with hydrocarbon fields								Onshore UK	Weald and Wessex basins	Onshore	0	0		0		United Kingdom	G B	0	0		Feb 11, 2022 2:45:51 PM
32 0	GB_F_20121003101 300412	Cromarty Sandstone Member	1	1	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Ypresian	Ypresian	Moray Group	Sele Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	75	27	Sele Formation	0		United Kingdom	G B	349870.1 759	6393507.4 19	WGS84 UTM31N	Oct 03, 2012 10:13:00 AM
32 1	GB_F_20121003101 820319	Mousa Formation	1	0	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Ypresian	Ypresian	Stronsay Group	Mousa Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Horda Formation	0		United Kingdom	G B	332849.4 152	6488585.8 51	WGS84 UTM31N	Oct 03, 2012 10:18:20 AM
32 2	GB_F_20121003104 156296	Flugga Sandstone Member	1	1	Saline Aquifer with hydrocarbon fields	Paleogene	Paleogene	Ypresian	Ypresian	Moray Group	Sele Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Sele/Horda Formation mudstones	0	Contains part of West Brae field	United Kingdom	G B	398660.5 804	6528319.6 83	WGS84 UTM31N	Oct 03, 2012 10:41:56 AM
32 3	GB_F_20121003115 143988	Hermod Sandstone Member	1	0	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Ypresian	Ypresian	Moray Group	Sele Formation	Sandstone	Central/Northern North Sea	Northern and Central North Sea Basin	Offshore	0	0	Sele Formation	0		United Kingdom	G B	444219.2 348	6636523.3 57	WGS84 UTM31N	Oct 03

32 4	GB_F_20121003120 535411	Skadan Sandstone Member	1	0	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Ypresian	Ypresian	Moray Group	Sele Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	25	30	Sele Formation	0		United Kingdom	G B	409314.0 682	6523391.2 46	WGS84 UTM31N	Oct 03, 2012 12:05:35 PM
32 5	GB_F_20121003120 916199	Teal Sandstone Member	1	0	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Ypresian	Ypresian	Moray Group	Sele Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	65	30	Sele Formation	0		United Kingdom	G B	436470.5 563	6650400.7 3	WGS84 UTM31N	Oct 03, 2012 12:09:16 PM
32 6	GB_F_20121003121 355226	Skroo Sandstone Member	3	0	Saline Aquifer without hydrocarbon fields	Paleogene	Paleogene	Lutetian	Ypresian	Stronsay Group	Horda Formation	Sandstone	Central/North Sea	Northern and Central North Sea Basin	Offshore	0	0	Horda Formation	0		United Kingdom	G B	405893.6 184	6505554.8 47	WGS84 UTM31N	Oct 03, 2012 12:13:55 PM
32 7	GB_F_20121004112 512957	Ormskirk Sandstone Formation	3	13	Saline Aquifer with hydrocarbon fields	Triassic	Triassic	Anisian	Anisian	Sherwood Sandstone Group	Ormskirk Sandstone Formation	Sandstone	Irish Sea	East Irish Sea Basin	Offshore	0	0	Mercia Mudstone Group	0		United Kingdom	G B	61169.62 049	6002887.6 34	WGS84 UTM31N	Oct 04, 2012 11:25:12 AM
42 1	GB_F_20220211145 050782	Siltstone Rock	1	1	Saline Aquifer with hydrocarbon fields								Onshore UK	East Midlands basin	Onshore	0	0		0		United Kingdom	G B	0	0		Feb 11, 2022 2:50:50 PM
42 2	GB_F_20220211145 516700	Westphalian A sands	1	3	Saline Aquifer with hydrocarbon fields								Onshore UK	East Midlands basin	Onshore	0	0		0		United Kingdom	G B	0	0		Feb 11, 2022 2:55:16 PM
32 0	TR_F_20210831163 946010	Garzan	15	15	Saline Aquifer with hydrocarbon fields						Garzan Formation	Carbonate	Turkey	Batman	Onshore	0	0		0		Turkey	T R	41.4105	37.9094	DMS WGS84 X:Long Y:Lat	Aug 31, 2021 4:39:46 PM
32 1	TR_F_20210902111 159060	Alt Sinan	2	2	Saline Aquifer with hydrocarbon fields						Alt Sinan Formation	Carbonate	Turkey	Batman	Onshore	0	0		0		Turkey	T R	41.5817	37.1022	DMS WGS84 X:Long Y:Lat	Sep 02, 2021 11:11:59 AM
32 3	TR_F_20210902112 936358	Beloka	5	5	Saline Aquifer with hydrocarbon fields						Beloka Formation	Carbonate	Turkey	Adiyaman	Onshore	0	0		0		Turkey	T R	41.4915	37.7398	DMS WGS84 X:Long Y:Lat	Sep 02, 2021 11:29:36 AM
33 0	TR_F_20210903162 122008	Derdere	21	21	Saline Aquifer with hydrocarbon fields						Derdere Formation	Carbonate	Turkey	Batman	Onshore	0	0		0		Turkey	T R	40.2538	38.2163	DMS WGS84 X:Long Y:Lat	Sep 03, 2021 4:21:22 PM
33 2	TR_F_20210907095 105039	Mardin	10	10	Saline Aquifer with hydrocarbon fields						Mardin Formation	Carbonate	Turkey	Batman	Onshore	0	0		0		Turkey	T R	41.3776	37.9579	DMS WGS84 X:Long Y:Lat	Sep 07, 2021 9:51:05 AM
33 3	TR_F_20210907114 007230	Sabunsuyu	2	2	Saline Aquifer with hydrocarbon fields						Sabunsuyu Formation	Carbonate	Turkey	Batman	Onshore	0	0		0		Turkey	T R	40.3481	38.1791	DMS WGS84 X:Long Y:Lat	Sep 07, 2021 11:40:07 AM
33 5	TR_F_20210907114 815037	Sinan	5	5	Saline Aquifer with hydrocarbon fields						Sinan Formation	Carbonate	Turkey	Batman	Onshore	0	0		0		Turkey	T R	41.4775	37.757	DMS WGS84 X:Long Y:Lat	Sep 07, 2021 11:48:15 AM
33 9	TR_F_20210907132 004070	Karababa	7	7	Saline Aquifer with hydrocarbon fields						Karababa Formation	Carbonate	Turkey	Adiyaman	Onshore	0	0		0		Turkey	T R	38.6558	37.8169	DMS WGS84 X:Long Y:Lat	Sep 07, 2021 1:20:04 PM
34 0	TR_F_20210907141 121746	Karababa-C	4	4	Saline Aquifer with hydrocarbon fields						Karababa-C Formation	Carbonate	Turkey	Adiyaman	Onshore	0	0		0		Turkey	T R	38.4866	37.6399	DMS WGS84 X:Long Y:Lat	Sep 07, 2021 2:11:21 PM
34 2	TR_F_20210907150 502033	Karabogaz	9	9	Saline Aquifer with hydrocarbon fields						Karabogaz Formation	Carbonate	Turkey	Adiyaman	Onshore	0	0		0		Turkey	T R	38.7626	37.8131	DMS WGS84 X:Long Y:Lat	Sep 07, 2021 3:05:02 PM
34 3	TR_F_20210907152 058974	Sayıdere	7	7	Saline Aquifer with hydrocarbon fields						Sayıdere Formation	Carbonate	Turkey	Adiyaman	Onshore	0	0		0		Turkey	T R	38.4815	37.7523	DMS WGS84 X:Long Y:Lat	Sep 07, 2021 3:20:59 PM
34 4	TR_F_20210907154 051436	Soğucak	4	4	Saline Aquifer with hydrocarbon fields						Soğucak Formation	Carbonate	Turkey	Trakya	Onshore	0	0		0		Turkey	T R	27.7368	41.3496	DMS WGS84 X:Long Y:Lat	Sep 07, 2021 3:40:51 PM
34 6	TR_F_20210910150 531107	Osmancık	1	1	Saline Aquifer with hydrocarbon fields						Osmancık Formation	Sandstone	Turkey	Trakya	Onshore	0	0		0		Turkey	T R	27.6687	41.2701	DMS WGS84 X:Long Y:Lat	Sep 10, 2021 3:05:31 PM
34 8	TR_F_20210910152 100973	Mardin-Adiyaman	2	2	Saline Aquifer with hydrocarbon fields						Mardin-Adiyaman	Carbonate	Turkey	Adiyaman	Onshore	0	0		0		Turkey	T R	38.7991	37.6231	DMS WGS84 X:Long Y:Lat	Sep 10, 2021 3:21:01 PM





# Hystories project consortium



Mineral and Energy  
Economy Research  
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