



BUNDESAMT FÜR
SEESCHIFFFAHRT
UND
HYDROGRAPHIE

GIS data

Geophysical site investigation (GeophysU)

Conventions for GIS data deliverables

Unit O23 «Site Investigation and Approval Advisory Subsoil»

16.07.2026

Table of contents

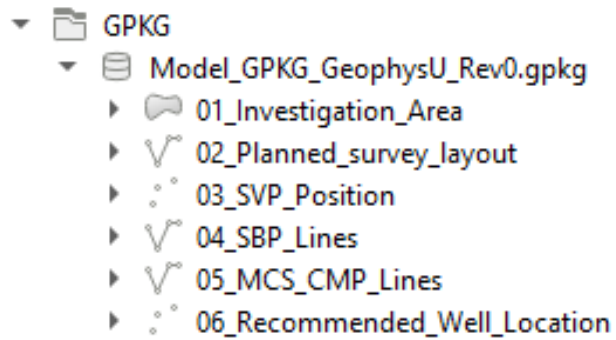
List of abbreviations.....	3
1. Geopackage	4
Structure of geopackage.....	4
Attribute catalog.....	5
Investigation Area	6
Planned survey layout	6
Locations SVP	6
Profile lines SBP	6
CMP lines MCS	6
Recommended well locations	6
2. Kingdom Export.....	7
Intersection bathymetry/profile by profile.....	7
Stratigraphic/structural horizons picked by profile	7
High amplitude reflectors picked by profile.....	7
Gas/fluid Indicators picked by profile.....	7
Fault planes	8
3. GeoTIFFs and XYZ Files.....	9
Gridded bathymetry	9
Gridded stratigraphic/structural horizons	9
Gridded high amplitude reflectors.....	9
Gridded gas/fluid Indicators	10
Thickness maps	10
Remark.....	11

List of abbreviations

CMP	Common midpoint
GeophysU	Geophysical site investigation (<i>Geophysikalische Untersuchung</i>)
MCS	Multi channel seismic
SBP	Sub bottom profiler
SVP	Sound velocity profiler
TWT	Two way travel time

1. Geopackage

Structure of geopackage



All entries with respect to coordinates, length and area are to be given in EPSG: 25832 (ETRS_1989_UTM_Zone_32N).

GPKG name	Example
<i>InvestigationArea</i>	„N16A“, „N16B“

Name of GPKG must be set as “*InvestigationArea_GPKG_GeophysU_Rev0.gpkg*”.

Attribute catalog

Field name	Description	Data type
area_km2	Size of investigation area in km ²	Double
c_mean_m_s	Average sound speed in water column in m/s	Double
channel_count	Number of channels in MCS streamer	Integer (long)
contractor	Name of contractor	Text (50)
date_utc	Date in UTC (yyyy-mm-dd)	Date
device	Device or source used for measurement	Text (50)
easting_m	Easting of the coordinate in m	Double
fid	fid	
frequency_kHz	Frequency of SBP measurement in kHz	Double
investigation_area_name	Name of investigation area	Text (50)
length_m	Length of profile in m	Double
northing_m	Northing of the coordinate in m	Double
profile_name	Name of the profile	Text (50)
remark	Description of the recommended well location	Text (255)
station	Name of the SVP station	Text (50)
station_number	Number of the recommended well location	Text (50)
vessel	Name of the survey vessel	Text (50)
waterdepth_m	Water depth at SVP station measured in m	Double

Investigation Area

- 1 feature for each area (MultiPolygon)
 - o Attribute table: fid, contractor, vessel, investigation_area_name, area_km2
 - o GPKG location: 01_Investigation_Area

Planned survey layout

- 1 feature for all profiles (MultiLine)
 - o Attribute table: fid, contractor, vessel, profile_name, length_m
 - o GPKG location: 02_Planned_survey_layout

Locations SVP

- 1 feature for all SVP locations (Point)
 - o Attribute table: fid, contractor, vessel, station, easting_m, northing_m, waterdepth_m, c_mean_m_s, date_utc
 - o GPKG location: 03_SVP_Position

Profile lines SBP

- 1 feature containing all profiles (MultiLine)
 - o Attribute table: fid, contractor, vessel, profile_name, device, frequency_kHz, length_m, date_utc
 - o GPKG location: 04_SBP_Lines

CMP lines MCS

- 1 feature containing all profiles (MultiLine)
 - o Attribute table: fid, contractor, vessel, profile_name, device, channel_count, length_m, date_utc
 - o GPKG location: 05_MCS_CMP_Lines

Recommended well locations

- 1 feature for all recommended well locations (Point)
 - o Attribute table: fid, contractor, station_number, easting_m, northing_m, remark
 - o GPKG location: 06_Recommended_Well_Location

2. Kingdom Export

File name	Example
<i>InvestigationArea</i>	„N16A“, „N16B“
<i>System</i>	Select „SBP“ or „MCS“
<i>XXX</i>	Reflector identifier, e.g. „H1“

Intersection bathymetry/profile by profile

- 1 Kingdom ASCII export data set (Line Trace X Y Time) for all (corrected) picks and profiles (all seafloor picks result in one seafloor data set) for each system
 - o Output NULLS as NaN
 - o File name: *InvestigationArea_GeophysU_System_Bathymetry-TWT_Point.dat*

Stratigraphic/structural horizons picked by profile

- 1 Kingdom ASCII export data set (Line Trace X Y Time) for all picks and profiles for each horizon
 - o Output NULLS as NaN
 - o File name: *InvestigationArea_GeophysU_System_HorizonXXX-TWT_Point.dat*

High amplitude reflectors picked by profile

- 1 Kingdom ASCII export data set (Line Trace X Y Time) for each system
 - o Output NULLS as NaN
 - o File name: *InvestigationArea_GeophysU_System_HighImpXXX_Point.dat*

Gas/fluid Indicators picked by profile

- 1 Kingdom ASCII export data set (Line Trace X Y Time) for each system marking phase reversals
 - o Output NULLS as NaN
 - o File name: *InvestigationArea_GeophysU_System_NegPolXXX_Point.dat*
- 1 Kingdom ASCII export data set (Line Trace X Y Time) for each system marking the top of a diffuse unit
 - o Output NULLS as NaN
 - o File name: *InvestigationArea_GeophysU_System_DiffuseXXX_Point.dat*

Fault planes

- 1 Kingdom ASCII export data set (Photon X Y ASCII) containing all mapped faults
 - o File name: *InvestigationArea_GeophysU_System_FaultXXX_Point.dat*

3. GeoTIFFs and XYZ Files

File name	Example
<i>InvestigationArea</i>	„N16A“, „N16B“
<i>System</i>	Select „SBP“ or „MCS“
<i>XXX</i>	Reflector / unit identifier, e.g. “H1” / “H1-H2”

Gridded bathymetry

- 1 GeoTiff containing the smoothed bathymetry used for tidal correction
 - o Floating Point, 32bit
 - o Save grid values in original resolution
 - o File name (TWT):
InvestigationArea_GeophysU_System_SmoothBat-Grid-TWT_Raster.tif
- 1 XYZ-file containing the smoothed bathymetry used for tidal correction
 - o File name (TWT):
InvestigationArea_GeophysU_System_SmoothBat-Grid-TWT_Point.xyz

Gridded stratigraphic/structural horizons

- 1 GeoTiff for each horizon
 - o Floating Point, 32bit
 - o Save grid values in original resolution
 - o File name (TWT):
InvestigationArea_GeophysU_System_HorizonXXX-Grid-TWT_Raster.tif
- 1 XYZ-file for each horizon
 - o File name (TWT):
InvestigationArea_GeophysU_System_HorizonXXX-Grid-TWT_Point.xyz

Gridded high amplitude reflectors

- 1 GeoTiff for each system
 - o Floating Point, 32bit
 - o Save grid values in original resolution
 - o File name (TWT):
InvestigationArea_GeophysU_System_HighImpXXX-Grid-TWT_Raster.tif
- 1 XYZ-file for each system
 - o File name (TWT):

InvestigationArea_GeophysU_System_HighImpXXX-Grid-TWT_Point.xyz

Gridded gas/fluid Indicators

- 1 GeoTiff for each system marking phase reversals
 - o Floating Point, 32bit
 - o Save grid values in original resolution
 - o File name (TWT):
InvestigationArea_GeophysU_System_NegPolXXX-Grid-TWT_Raster.tiff
- 1 XYZ-file for each system marking phase reversals
 - o File name (TWT):
InvestigationArea_GeophysU_System_NegPolXXX-Grid-TWT_Point.xyz
- 1 GeoTiff for each system marking the top of a diffuse unit
 - o Floating Point, 32bit
 - o Save grid values in original resolution
 - o File name (TWT):
InvestigationArea_GeophysU_System_DiffuseXXX-Grid-TWT_Raster.tiff
- 1 XYZ-file for each system marking the top of a diffuse unit
 - o File name (TWT):
InvestigationArea_GeophysU_System_DiffuseXXX-Grid-TWT_Point.xyz

Thickness maps

- 1 GeoTiff for each stratigraphic/structural unit
 - o Floating Point, 32bit
 - o Save grid values in original resolution
 - o File name (TWT):
InvestigationArea_GeophysU_UnitXXX-Thick-TWT_Raster.tiff
- 1 XYZ-file for each stratigraphic/structural unit
 - o File name (TWT):
InvestigationArea_GeophysU_UnitXXX-Thick-TWT_Point.xyz

Remark

The naming of all files, datatypes and attributes in the geodatabase must comply with the specifications given above.

Any deviations must be agreed with the client prior to delivery.