

SCOPE OF SERVICES – LOT 1

Project		Danish offshore wind 2030					
Assignment		Geophysical surveys for Danish offshore wind 2030					
Document Title		Scope of Services - Lot 1					
Document No.		22/02940-1					
Audience		Tenderers					
Version	Document status	Prepared by		Reviewed by		Approved by	
		Name	Date	Name	Date	Name	Date
1	Template	JCO	2021-01-18				
2	For tender	AEU	2022-06-24	JCO	2022-06-28	SRN	2022-06-28
3	For rev tender	AEU	2022-10-08	JCO	2022-10-09	SRN	2022-10-10

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1. Introduction

1.1 Political background

Following a decision in the Danish Parliament 2022 Denmark is on the path to establish off-shore energy and related infrastructure in the Danish North Sea, in the Danish inner sea (*Katte-gat*) and Danish Baltic Sea to connect further offshore wind energy to the Danish mainland.

Figure 1-1 illustrates the regional locations of the project.

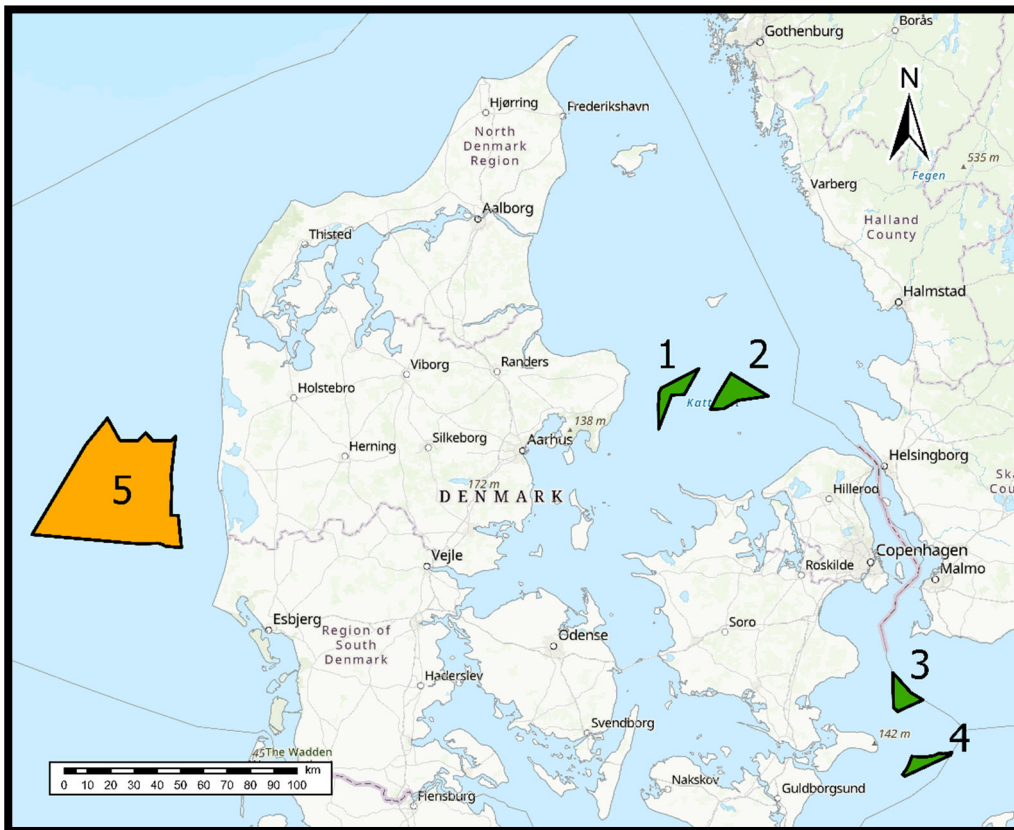


Figure 1-1. Project locations for Kattegat, the Baltic Sea and the North Sea. Numbers identify different parts of the project and colours the LOTs. LOT 1 in green comprises four off-shore wind farm sites, LOT 2, LOT 3 and LOT 4 in orange all concern the development area North Sea 1.

1.2 The project

The offshore elements of the project comprises the following main characteristics:

- Two offshore wind farms in Kattegat.
- Two offshore wind farms in the Southern Baltic Sea.
- Multiple offshore wind farms in the North Sea.
- Offshore platforms for substations
- Export cables between offshore wind farms and the Danish mainland

The offshore wind farm (OWF) areas are shown in Figure 1-1. It is anticipated that the North Sea development area at a later stage will be divided into multiple offshore wind farm project sites.

1.3 Site investigations

The Danish Energy Agency has instructed the Client to initiate site investigations, environmental and metocean studies for the above mentioned main project elements.

On the basis of the instruction from the Danish Energy Agency the Client requests the Consultant to commence OWF geophysical survey activities primo 2023 for the project parts listed in Table 1-1.

For the project parts, Table 1-1 shows how the area are combined into contract lots and which work packages are requested. Work packages cover:

- WP A: Geological site survey with 2D UHR seismic spread
- WP B: Magnetometry box survey
- WP C: Geophysical survey

Surveys for the subsea cables and substations are not included in the present scope of services.

Table 1-1. Overview of project parts included in the scope of services, the associated work packages (see section 2.2), areal extent and contract lots.

Part	Site	Region	Work package	Area Km2	Contract Lot
1	Kattegat II	Kattegat	A, B C	123	1
2	Hesselø South	Kattegat	A, B C	166	1
3	Kriegers Flak II North	Baltic Sea	A, B C	99	1
4	Kriegers Flak II South	Baltic Sea	A, B C	76	1
5	North Sea 1	North Sea	A	2200	2
5	North Sea 1	North Sea	B	2200	3
5	North Sea 1	North Sea	C	2200	4

This document covers services related to LOT 1, wind farm areas in the inner Danish Seas.

2. Scope or Services

To support the development of the project the Consultant must provide geophysical surveys covering the areas of investigation described in Chapter 5.

2.1 Purpose of assignment

The results of the survey should be suitable for use as basis for

- Initial marine archaeological site assessment.
- Planning of environmental investigations.
- Planning of initial geotechnical investigations.
- Decision of foundation concept and preliminary foundation design.
- Assessment of installation conditions for foundations and inter-array cables.
- Site information enclosed in the tender for the offshore wind farm concession.

2.2 Scope of assignment

To accommodate the above mentioned purposes the assignment includes the following work packages:

- **Work Package A – Geological site survey**
A geophysical 2D Ultra High Resolution seismic survey is performed to map the sub-surface geological soil layers to at least 100 m below seabed. Bathymetry should be mapped along the survey lines as should the shallow geology.
- **Work Package B – Magnetometry box survey**
A high-resolution magnetometry box survey is performed at rectangular areas containing locations planned to subsequently be subject to geotechnical drilling work. In addition to magnetometry the scope includes a high-resolution acoustic survey (multibeam echo-sounding and dual frequency side scan sonar). For amounts see Table 2-1.
- **Work Package C – Geophysical site survey**
The survey has full coverage in the area of investigation. The survey must map the bathymetry, the static and dynamic elements of the seabed surface and the sub-surface geological soil layers to at least 10 m below seabed.

All work packages includes, that the data acquired from the offshore investigations shall be processed, interpreted and supplied as a number of reports, charts and a set of digital deliverables.

Table 2-1 Expected scope for WP B magnetometry box survey for individual project parts of LOT 1. Amounts *are based on the number of planned geotechnical locations + may vary plus/minus 25%*

Part	Site	No of locations 200m x 150m	No of locations 150m x 100m
1	Kattegat II	97	1518
2	Hesselø south	108	2230
3	Kriegers flak II north	68	1417
4	Kriegers flak II south	75	163

Water depth ranges for the various sites are shown in the Table 5-1. The geography of the area of investigations is described in chapter 5.

This document - including enclosures - describes the requirements for the scope of services.

3. Time Schedule

The requirements to the time schedule for the provision of the services are driven by the following key conditions:

- **Survey permits.** The Client will apply for survey permits to be available within the end of 2022. Therefore, the Consultant may assume that marine activities can commence from January 2023. No marine activities are allowed commencement before all permits are available.
- **Concession tender.** With the Lot 1 projects the Danish authorities accelerates the project development to award the project concessions in 2024. Therefore, the results of the geophysical survey is required to be available as soon as possible and no later than end of 2023.
- **Geotechnical investigations.** Marine borehole drilling and seabed testing commences during 2023 Q1. Therefore, the Consultant is requested to complete marine activities with magnetometry box survey (WP B) before April 2023.
- **Marine mammals, Baltic Sea.** For the project parts 3 and 4 in the Baltic Sea, it is expected that the survey permit will prohibit the use of seismic sources from November to March to protect marine mammals in the Baltic Sea.

The following formal requirements to the time schedule are derived from the abovementioned key conditions.

3.1 Requirements to time schedule

The Client requests that the services are performed with respect to the following requirements:

3.1.1 WP A – Geological site survey

1. Commencement of marine survey activities not before **2023-01-01**.
2. For Parts 3 and 4: Survey with seismic sources performed between April and October.
3. Complete delivery package, integrated into and reported together with WP C.
4. The Consultant must allow for the following amount of time for the Client to review and comment the draft work package deliverables: **4 weeks**.

3.1.2 WP B – Magnetometry box survey

1. Commencement of marine survey activities not before **2023-01-01**.
2. All marine survey activities are completed no later than **2023-03-31**.

3. Preliminary deliveries (agreed with the client) for each box location is provided no later than 48 hours after completion of each box unless otherwise agreed. These should include:

- a. Pdf charts imagery for MBES, SSS, MAG and anomalies
- b. GIS files containing outline of boxes
- c. GIS files containing interpreted anomalies

3.4. The complete delivery package, revised issue, is provided no later than **2023-05-15**.

4.5. The Consultant must allow for the following amount of time for the Client to review and comment the draft work package deliverables: **2 weeks**.

3.1.3 WP C – Geophysical survey

5.6. Commencement of marine survey activities not before **2023-01-01**.

5. For Parts 3 and 4: Survey with seismic sources performed between April and October.

6.7. All marine survey activities completed no later than **2023-09-01**.

7.8. The Consultant must allow for the following amount of time for the Client to review and comment the draft work package deliverables: **4 weeks**.

8.9. Complete delivery package, revised issue, is provided no later than **2023-12-01**.

9.10. Complete delivery packages for separate sites delivered in an order reflecting the completion of offshore works.

3.2 Contract milestones

As part of the Consultants tender response, the Consultant supplied milestone dates for the performance of the Scope of Services based on the template displayed in Figure 3-1.

Together with the Consultants detailed time schedule (Gantt style) the provided milestone dates constitutes the contracted time schedule. It appear from Table 3-1, that some selected milestones are subject to liquidated damages (LD) as described in the Service Agreement.

Please note that the Client has a priority list with regards to time schedule for the four parts. The numbering of parts is in accordance with priority. Thus priorities are as stated below:

- 1. priority : Part 1 : Kattegat II
- 2. priority : Part 2 : Hesselø South
- 3. priority : Part 3 : Kriegers Flak II North
- 4. priority : Part 4 : Kriegers Flak II South

Table 3-1. Overview of contract milestones subject to liquidated damages (LD).

Milestone	WP	Event	Project Part	Contract Lot
M 1001	(all)	Premob deliverables provided	1+2+3+4	1
M 1002	A	Marine operations commenced		
M 1005	B	Marine operations completed		
M 1008	C	Marine operations commenced		
M 1016	A, C	All reports provided, revised issue		

Item	Event	Note	Due date	LD	Milestone
1	Commencement of contract		2022-10-18		
2	Project execution and QHSE plans provided				
3	Kick-off meeting				
4	Premob deliverables provided	3, 4		YES	1001
5	Work Package A - Geological site survey				
6	Marine operations commenced, 2D UHRS	1		YES	1002
7	All marine operations completed				1003
8	Work Package B - Magnetometry box survey				
9	Marine operations commenced	1			1004
10	All marine operations completed	3		YES	1005
11	All preliminary deliverables provided	2			1006
12	Client review		(2 weeks)		
13	All final deliverables from WP B provided, revised version	2			1007
14	Work Package C - Geophysical site survey				
15	Marine operations commenced	1, 3		YES	1008
16	All marine operations completed				1009
17	Report no 1 Kattegat II covering WP A and C provided, draft issue	2			1010
18	Report no 1 Kattegat II covering WP A and C, client review		(4 weeks)		
19	Report no 1, Kattegat II covering WP A and C provided, revised issue	2			1011
20	Report no 2 Hesselø South covering WP A and C provided, draft issue	2			1012
21	Report no 2 Hesselø South covering WP A and C, client review		(4 weeks)		
22	Report no 2 Hesselø South covering WP A and C provided, revised issue	2			1013
23	Report no 3 Kriegers Flak North and South covering WP A and C provided, draft issue	2			1014
24	Report no 3 Kriegers Flak North and South covering WP A and C, client review		(4 weeks)		
25	Report no 3 Kriegers Flak North and South covering WP A and C provided, revised issue	2			1015
26	All reports covering WP A and C provided, revised issue	2, 3		YES	1016
Note 1	Event has occurred at first day with working time recorded as OPERATIONAL TIME.				
Note 2	Event has occurred when report, including all charts and all digital deliverables have arrived at the Clients' office in Fredericia, Denmark.				
Note 3	Milestones marked with "YES" in the table column "LD" are subject to potential delay damages acc. to contract.				
Note 4	Premobilization deliverables must be provided within 20 calendar days of contract signature. Premobilization deliverables include evidence for meeting the insurance requirements and the performance guarantee. See the Consultancy Agreement for detailed requirements.				

Figure 3-1. Template for contract milestones that has been completed by the Consultant as part of his proposal. The milestones regarding commencement of marine operations and completion of the final deliverables are subject to liquidated damages (LD) as described in the Service Agreement. The template apply for project parts 1 – 4.

4. Requirements

For the areas of investigation described in section 5 the Consultant must provide data acquisition, seabed sampling and testing, laboratory analyses, data processing, data interpretation and reporting that satisfies the requirements described in section 4.

4.1 Functional Requirements

4.1.1 Work Package A – Geological site survey

The Consultant must carry out mapping of the upper part of the subsurface in a sufficient level of detail to:

- Map all major geological layers and structures to at least 100m below seabed.
- Locate structural complexities or geohazards within the shallow geological succession such as faulting, accumulations of shallow gas, buried channels, soft sediments, hard sediments, mobile sediments etc.

4.1.2 Work Package B – Magnetometry box survey

Within the areas of investigation for this work package (see section 5 and Table 1-1) the Consultant must carry out a detailed mapping of the seabed surface to:

- Identify and locate any man-made or natural objects on the seabed larger than 0.5 m.
- Identify and locate any buried objects with a ferrous mass larger than 50 kg that are buried up to 2 m below the seabed surface.
- Provide a complete data set for target interpretation in the surveyed area.
- Chart any findings and observations relevant to the geotechnical contractor (e.g. boulders, wrecks and other Man-Made-Objects), in an appropriate chart format suggested by the Consultant.

4.1.3 Work Package C – Geophysical site surveys

The Consultant must carry out a detailed mapping of the seabed surface to provide:

- Accurate bathymetric data and charts in the surveyed area.
- The morphology and natural features of the seabed surface such as mega-ripples, sand-waves, boulders, outcropping geology, seaweed and reefs.
- Possible man-made features such as wrecks, debris, fishing gear, trawl marks, anchor scars and objects of potential archaeological interests.
- Identification of features of potential conservation interest including but not limited to; sandbanks, gravel reef, cobble reef, rocky reef and biogenic reef structures.

The Consultant must carry out mapping of the upper part of the subsurface in a sufficient level of detail to:

- Locate structural complexities or geohazards within the shallow geological succession such as faulting, accumulations of shallow gas, buried channels, soft sediments, hard sediments, high boulder density, mobile sediments etc.

4.2 Technical Requirements

To meet the functional requirements the following technical requirements described in this section shall apply.

Detailed technical requirements applying for the scope of services are described in Enclosure 1.

4.2.1 Work Package A – Geological survey

The Geological survey includes the following:

- **Multi-Beam Echo-Sounding** including **backscatter**
- **Seismic investigations** using multiple systems
 - Single-channel, high-resolution sub-bottom profiler for mapping of shallow soils in the investigation area.
 - 2D Ultra High Resolution Seismic (2D UHRS) system for mapping of soil units to at least 100m below seabed in the investigation area.

4.2.2 Work Package B – Magnetometry box survey

The magnetometry box survey include the following:

- An appropriate **multi magnetometer / gradiometer** setup, proposed by the Consultant, that can identify ferrous objects placed on the seabed, partly buried and with a shallow burial within a given accuracy.
- **High-resolution multibeam echo-sounding** and dual frequency **Side Scan Sonar**, complete coverage within the area of investigation.
- Perform an equipment verification test over a known object as part of the Consultants offshore mobilization.

4.2.3 Work Package C – Geophysical survey

The Geophysical survey includes the following:

- **Multi-Beam Echo-Sounding** including **backscatter** for bathymetric mapping, complete coverage within the area of investigation.
- **Side Scan Sonar** (dual frequency) for mapping of the seabed surface. The data must overlap to cover nadir of adjacent survey lines.
- **Magnetometer** for screening of ferrous objects and crossing cables and pipelines.
- **Grab sampling** to support the interpretation of the seabed surface geology.
- **Seismic investigations** using single-channel, high-resolution sub-bottom profiler for mapping of shallow soils in in OWF area.

4.3 Reporting and Data delivery

The Consultant shall process and interpret all data acquired during surveying as well as carry out all necessary reporting according to the requirements specified in the documents

- Enclosure 1 - Technical Specifications and
- Enclosure 2 - Standards of Deliverables.

It is expected that deliverables from work packages A and C are integrated and reported together for this LOT 1.

4.4 UXO risk mitigation

Some parts of the area of investigation are likely to be located in areas with elevated probability for encountering UXO objects. The Client has not yet conducted a UXO desk study.

Therefore the Consultant shall include in his Project and QHSE plan a procedure to mitigate this risk related to direct seabed interactions.

The Client accepts that this risk can be minimized within the principles of ALARP if seabed interactions are localized within 5 m of geophysical survey lines free of any anomalies.

4.5 Simultaneous operations

In order to speed up the process and establish off-shore wind farms as soon as possible geophysical and geotechnical data collection is scheduled to take place simultaneously, Table 4-1. This requires good communication and shared survey plans. Thus, extra time must be anticipated for communication and coordination.

The Client envisage that geotechnical investigations has 1. priority regarding the right of ways.

Table 4-1 Coarse scale preliminary overview of expected survey activities. Light blue indicates likely off-shore activity while darker colour indicates expected reporting time.

Survey activity	2023
WP A : Geological survey, 2D UHR	
WP B : Box survey	
WP C : Geophysical survey	
Geotechnical investigations	

Geotechnical investigations depends on results of work package B. Therefore, the geophysical work must be planned to have work package B conducted first or have geophysical vessels collecting different work packages simultaneously.

Due to the geotechnical investigations taking place simultaneously a communication plan will be agreed upon prior to project kick-off. Information from the geophysical campaign is valuable to the geotechnical campaign in order to better understand potential challenges related to subsurface conditions. Thus, if work package A data are collected before geotechnical data in some parts, the relevant lines, e.g. those crossing planned borehole/CPT-locations, should be made available in a preliminary version as soon as practically possible.

4.6 HSE requirements

To manage the Health, the Safety and the Environmental risks under the assignment a number of requirements attached as Enclosure 3 must apply for the Consultants provision of the services.

4.7 Quality requirements

To manage the Quality under the assignment a number of requirements attached as Enclosure 4 must apply for Consultants provision of the services.

5. Areas of investigation

The coordinates for the area of investigations subject to this assignment are provided by the Danish Energy Agency as part of their instruction to Energinet. The plan includes the areas shown in green in Figure 1-1, and listed with information on size in Table 1-1.

Below information regarding the different sites as well as vertices of the polygons are provided.

5.1 Admiralty charts

Figure 5-1, Figure 5-2, Figure 5-3 and Figure 5-4 show the areas of investigation in LOT 1 together with admiralty charts.

In Kattegat II, see Figure 5-1, a few known wrecks are indicated. One on the site and two very close to the boundary of the area of investigation. Also two exclusion zones where anchoring and grab sampling is not recommended are seen, one is very near to and the other intersecting the area of investigation.

Figure 5-2 displays the Hesselø South area of investigation together with admiralty charts. One known wreck is located inside the study area. To the southeast underwater rock of known depth is present and supplied with a main light visible all-round. The area is listed as a military firing practice area.

In the Baltic Sea Kriegers Flak II North and South, Figure 5-3 and Figure 5-4, cables are seen to pass through the areas. Two in Kriegers Flak II North including the export cable from Kriegers Flak 1 and one in Kriegers Flak II South. Several known wreck sites are located around Kriegers Flak II North and two of them inside the investigation area. Furthermore, the northernmost part of Kriegers Flak II North is a restricted area in which anchoring, fishing and grabbing is not recommended due to high risk of UXO (German minefield and UK Daffodil 3 minefield).

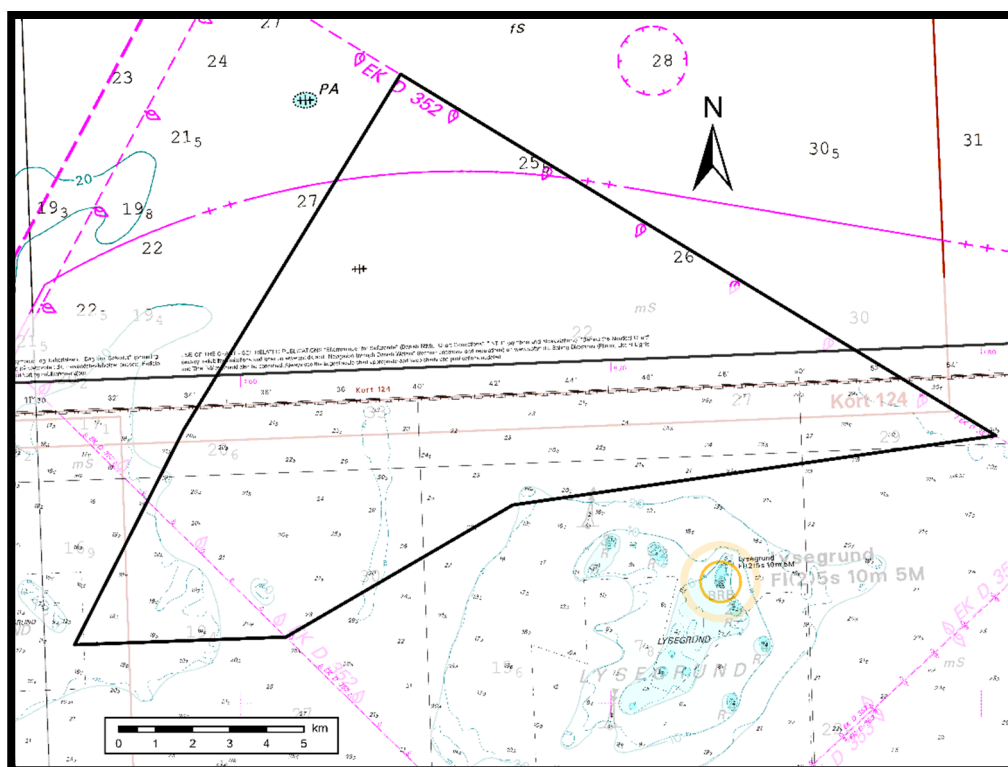


Figure 5-2 Area of investigation (black polygon) for Hesselø South displayed with admiral charts 102 and 129 © Danish Geodata Agency.

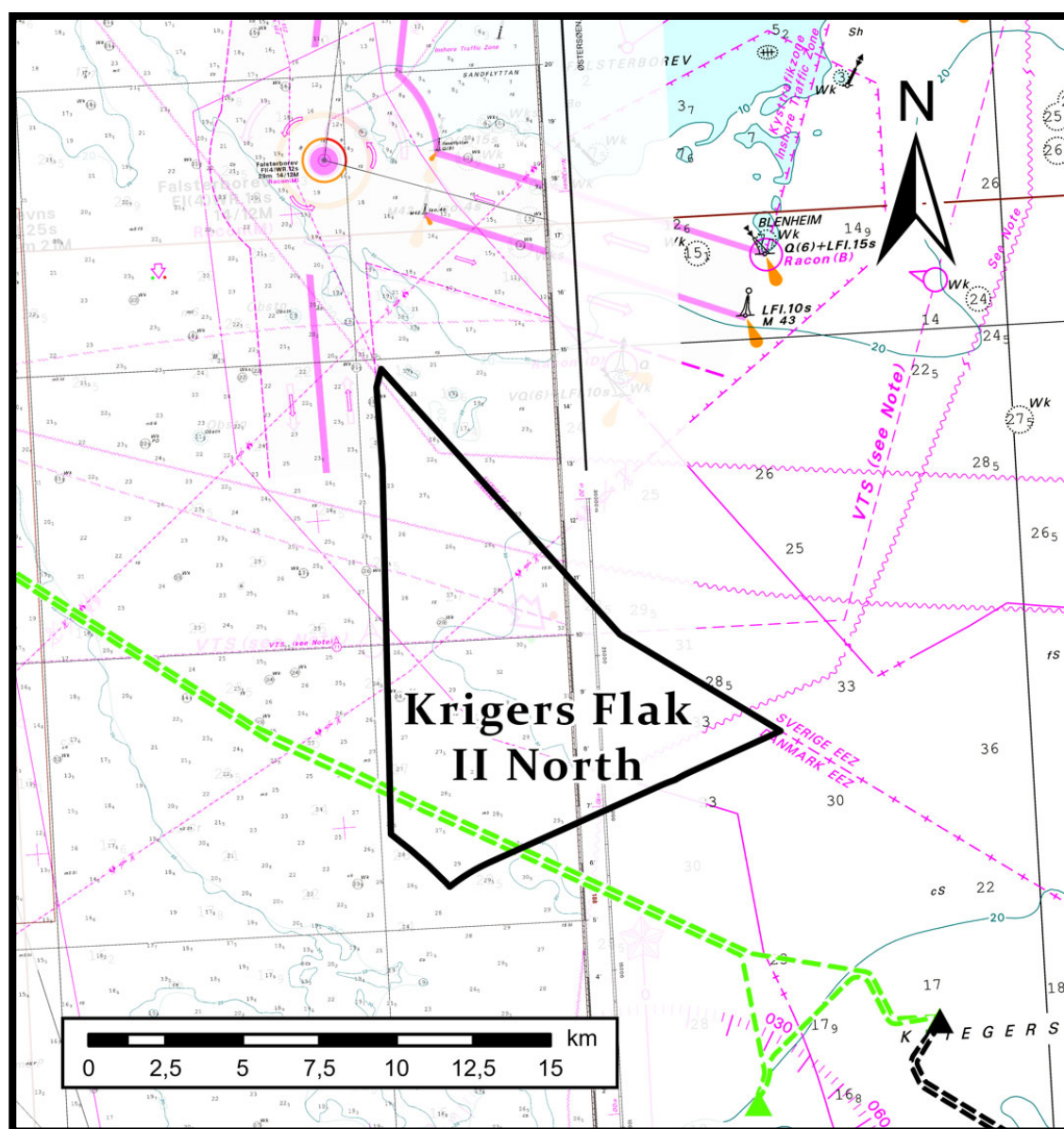


Figure 5-3 Area of investigation (black polygon) for Kriegers Flak II North displayed with admiral chart 104 under 198 © Danish Geodata Agency.

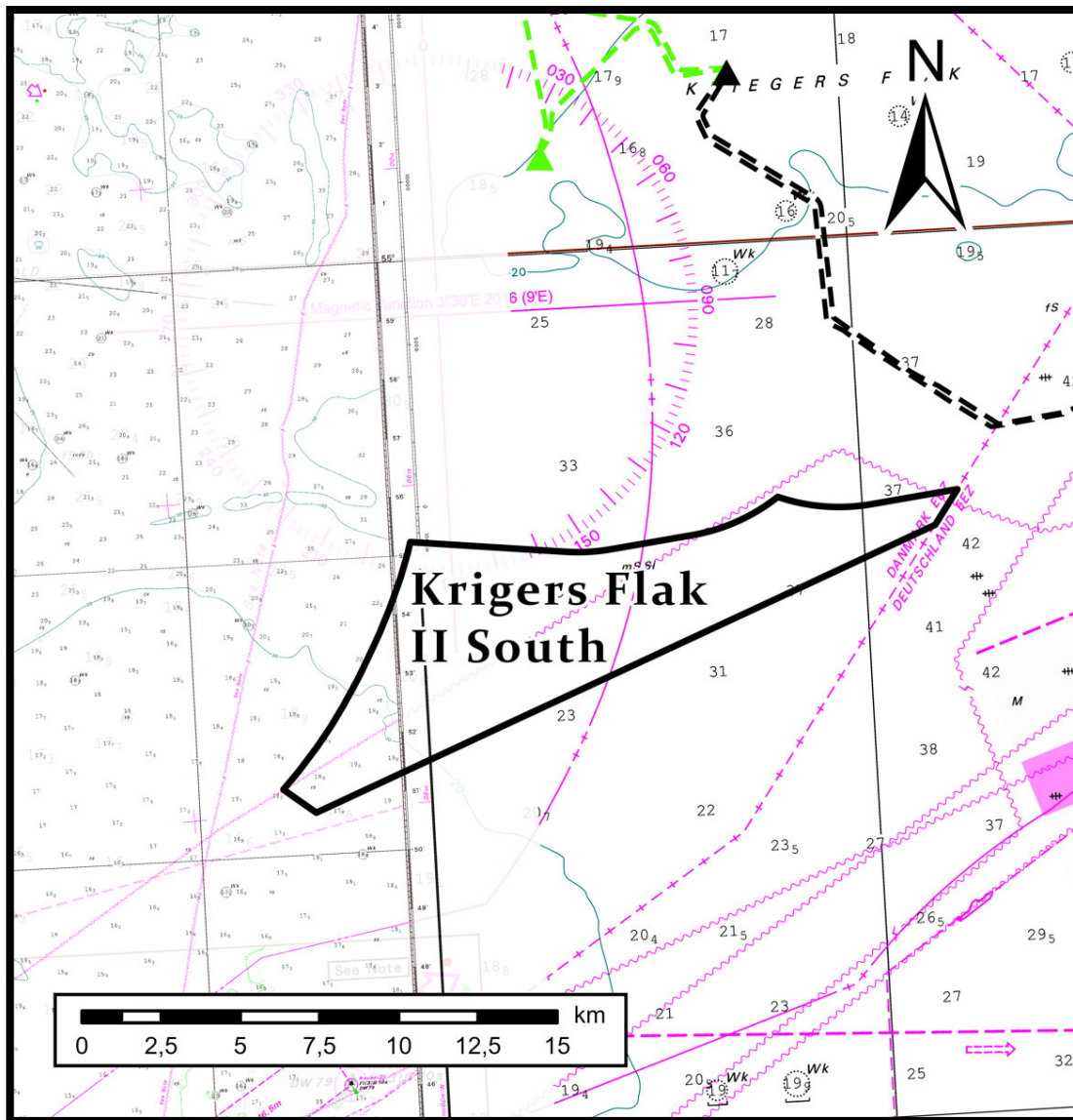


Figure 5-4. Area of investigation (black polygon) for Kriegers Flak II South displayed with admiral chart 104 underneath 198 © Danish Geodata Agency.

5.2 Water depths

The Clients expectations to the water depths in the areas of investigation are seen in Figure 5-6 and Figure 5-5. The bathymetrical DTM information in the figures is based on regional models of ca. 100m spatial resolution (Emodnet 2018 MSL). From the figures the following expectations to the minimum/maximum water depths may be assumed:

Table 5-1 Ranges of water depth

Part	Site	Water depth ranges
1	Kattegat II	10m to 35m
2	Hesselø South	20m to 30m
3	Kriegers Flak II North	25m to 40m
4	Kriegers Flak II South	10m to 50m

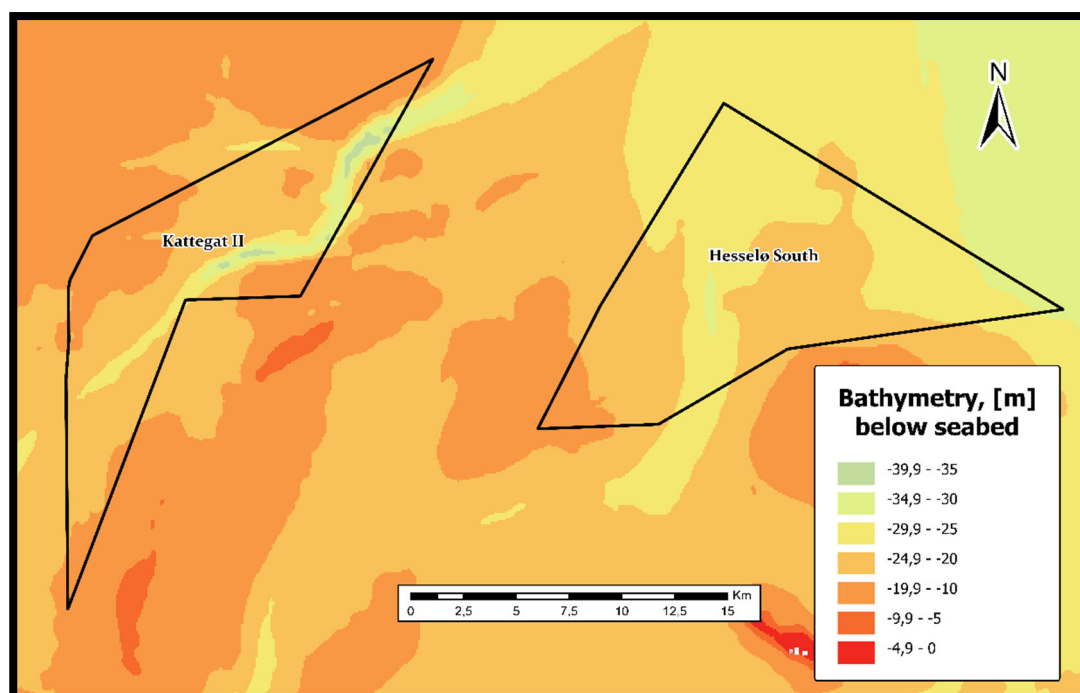


Figure 5-5. Water depths (Emodnet 2018 MSL). BLACK POLYGONS show the areas of investigation for project LOT 1 Kattegat II and Hesselø South .

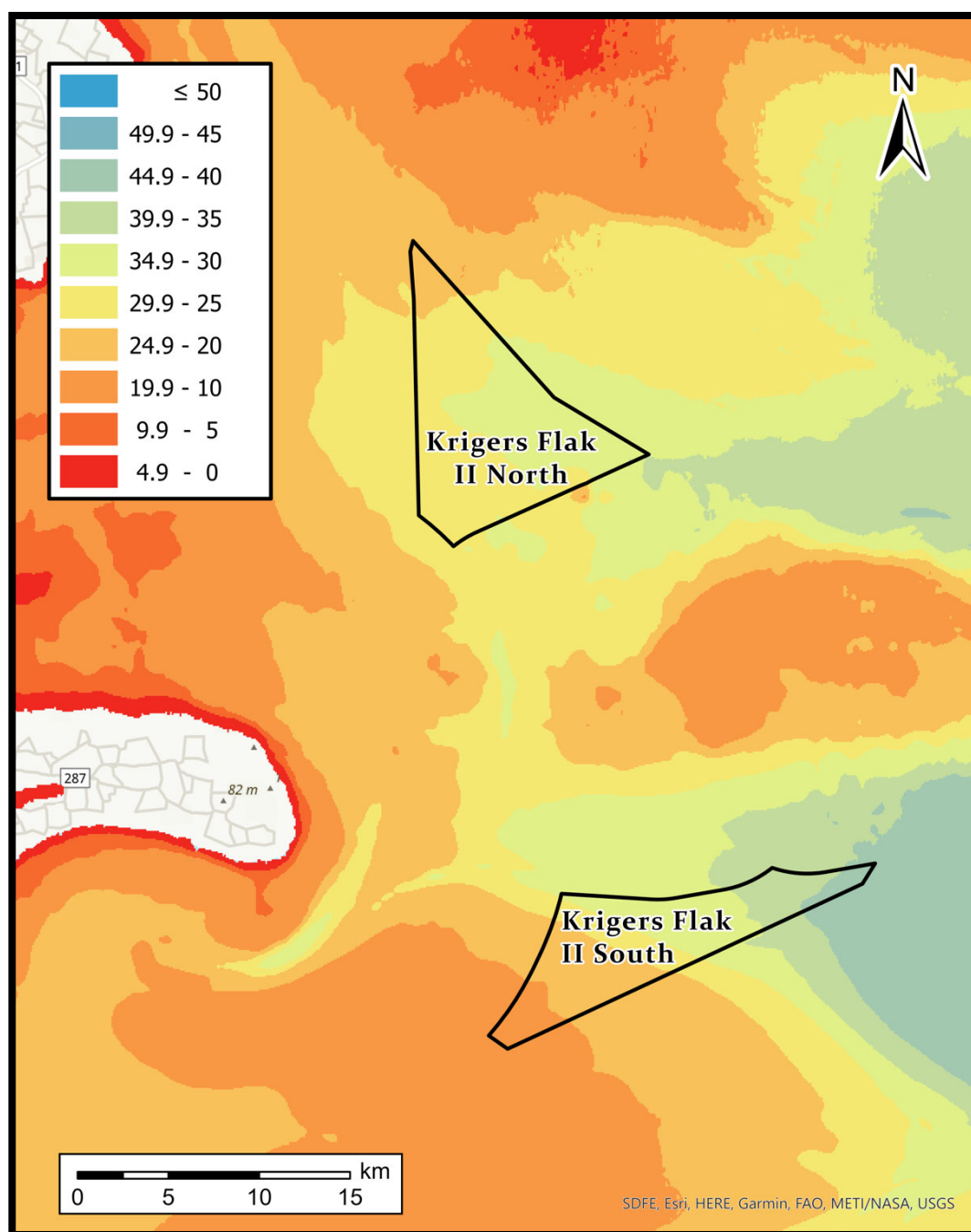


Figure 5-6. Water depths (Emodnet 2018 MSL). BLACK POLYGONS show the areas of investigation for project LOT 1 Kriegers Flak II North and South.

5.3 Geology

Figure 5-7 and Figure 5-8 show the surface geology in the areas of investigation based on models from GEUS (Danish Geological Survey) 2015 supplied with 2001.

Fine screening desktop studies are available in Danish for Kriegers Flak II North and South while for Hesselø South a report on the integrated model for the Hesselø north off-shore windfarm is available.

Please be aware that Holocene deposits, especially, muddy sand may be very soft and that very large boulders were found in till units at the Kriegers Flak area between Kriegers Flak II North and South.

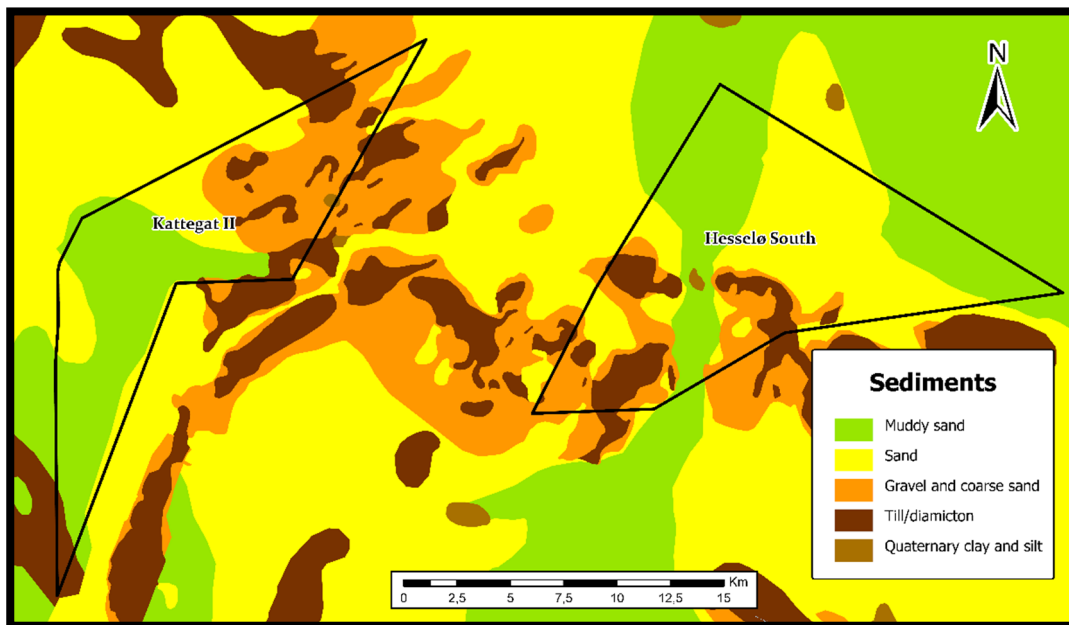


Figure 5-7. Geology, seabed surface (GEUS 2015). BLACK POLYGONS show the areas of investigation for Kattegat II and Hesselø South.

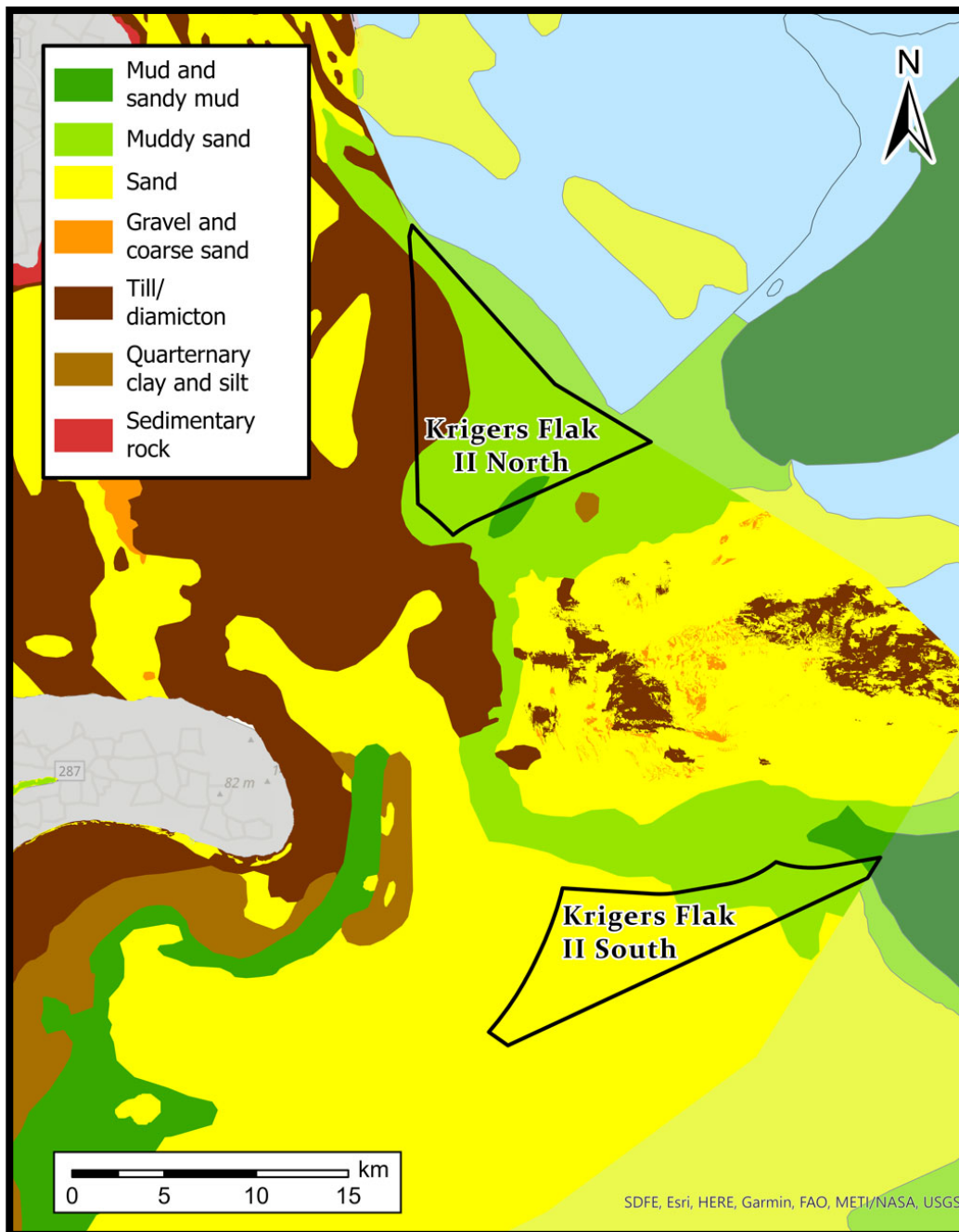


Figure 5-8. Geology, seabed surface (GEUS 2015 to the west and GEUS 2001 to the east). BLACK POLYGONS show the areas of investigation for Krigers Flak II North and South.

Kattegat II

In Kattegat II, Figure 5-7, indicates that seabed sediments are dominated by coarse sand and gravel in the northern part of the area. These deposits surrounds smaller localized outcrops of till. Southwards seabed sediments are fining and the southern part of the area is dominated by muddy sand which to some extent appears to correlate with a channel feature in the bathymetry, Figure 5-5.

Hesselø South

According to Figure 5-7 seabed sediments in Hesselø South are dominated by sand and muddy sand with some till outcropping in the central part and surrounded by derived gravel and

coarse sand. The muddy sand appears to be located mainly to the north in the site and in a north-south striking feature observed in the central part of the area and seen to correlate with a depression/channel feature in the bathymetry, Figure 5-5. The planned Hesselø South wind farm is located immediately south of another planned windfarm, Hesselø north, from which an integrated 3D geomodel is available and the corresponding report may be consulted for more detail on the geology of a nearby area.

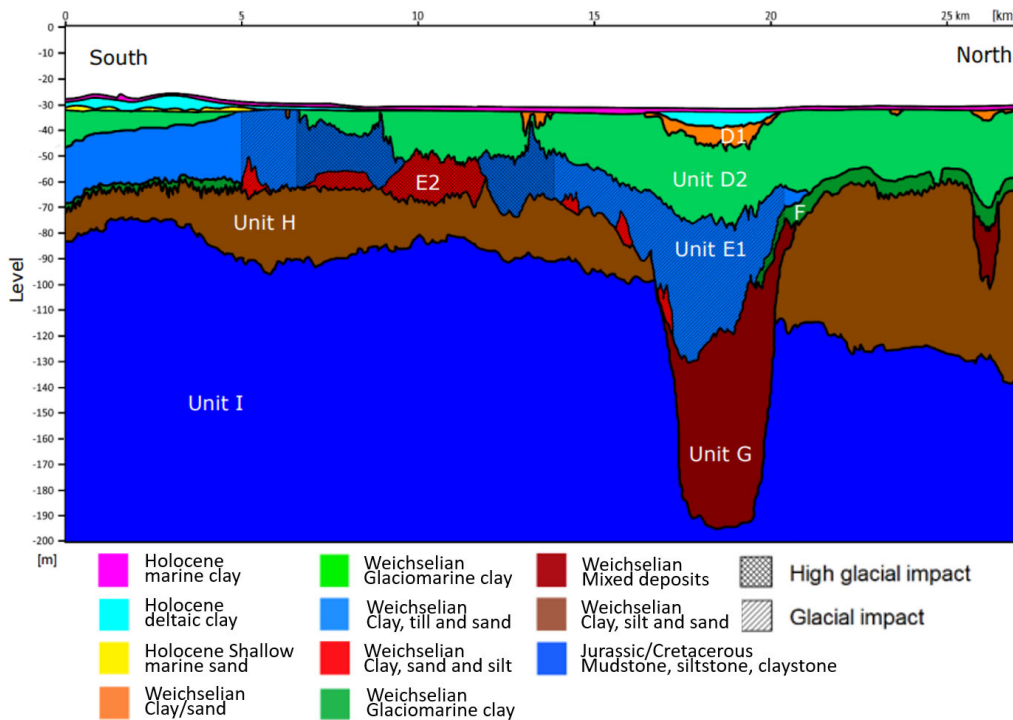


Figure 5-9 Conceptual understanding of the area of Hesselø north presented in https://ens.dk/sites/ens.dk/files/Vindenergi/309_hesseloe_integrated_geomodel_report.pdf

Kriegers Flak II North and South

According to Figure 5-8, Kriegers Flak II North has seabed sediments dominated by muddy sand with some outcropping till to the northwest. While, Kriegers Flak II South is expected to have a sandy seabed to the west and muddy sand to the east.

A 3D integrated geomodel has been produced and reported by Rambøll in 2014 for the nearby off shore windfarm Kriegers flak. Furthermore, COWI has prepared a finescreening study from which the conceptual geological understanding of the areas are shown in Figure 5-10. It may provide some idea of the regional geology in the area.

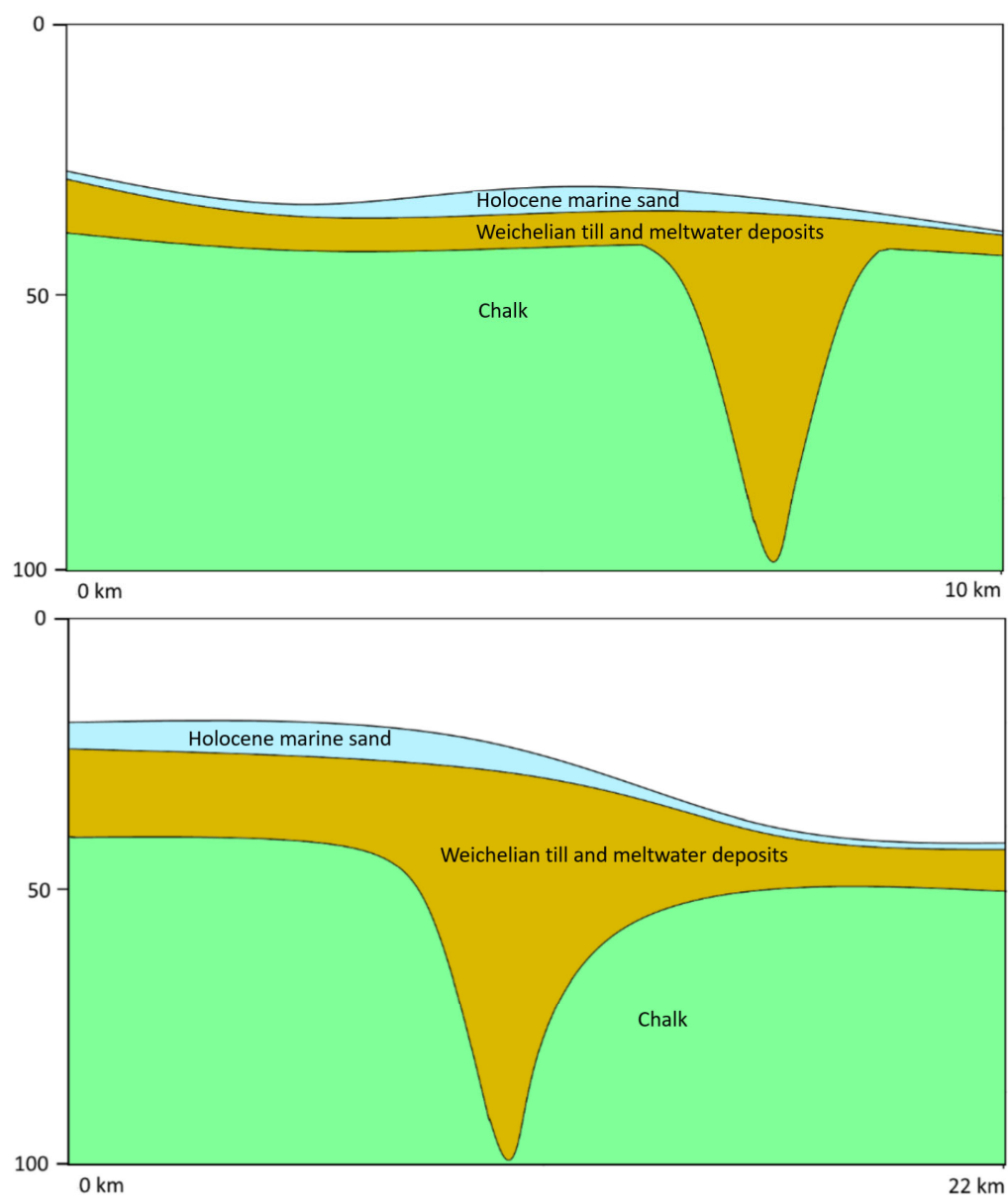
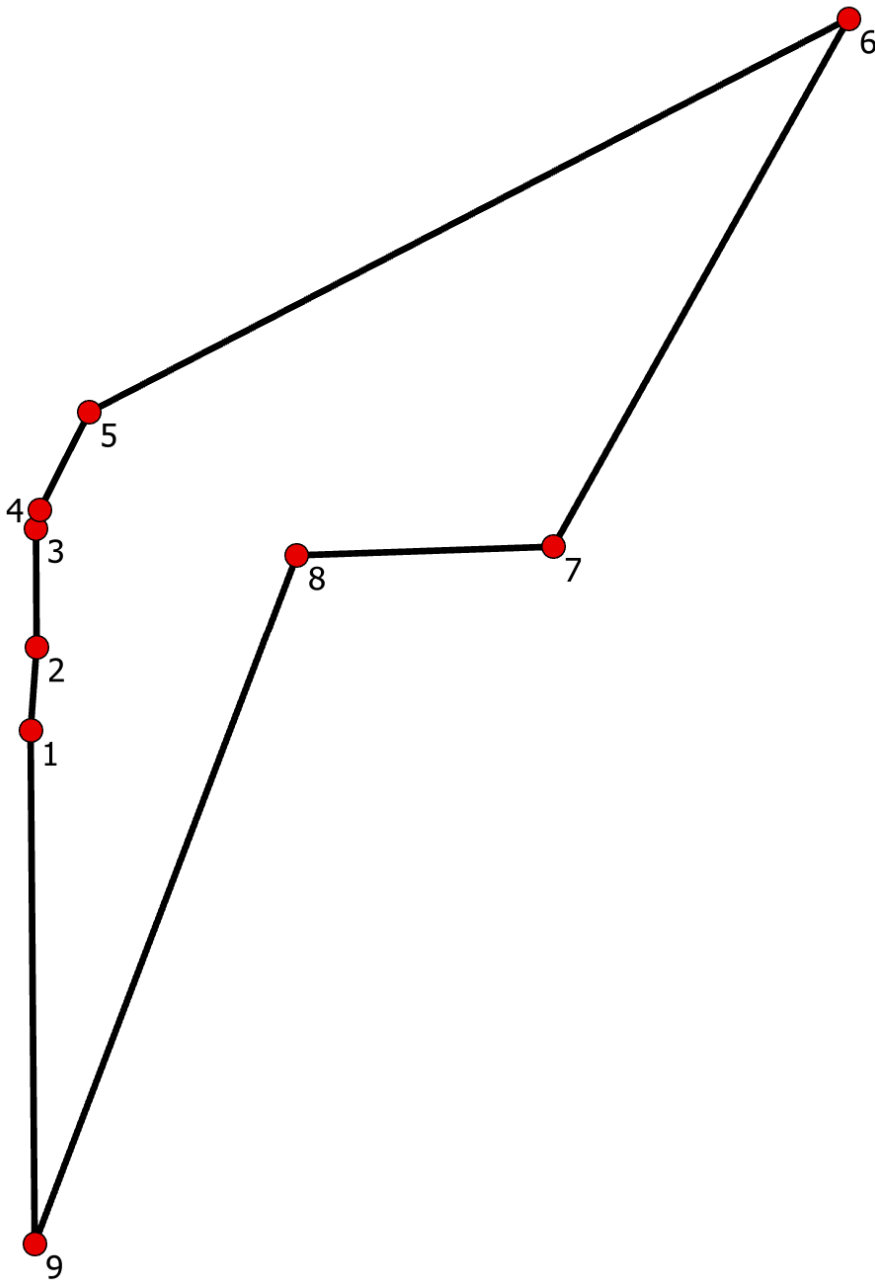


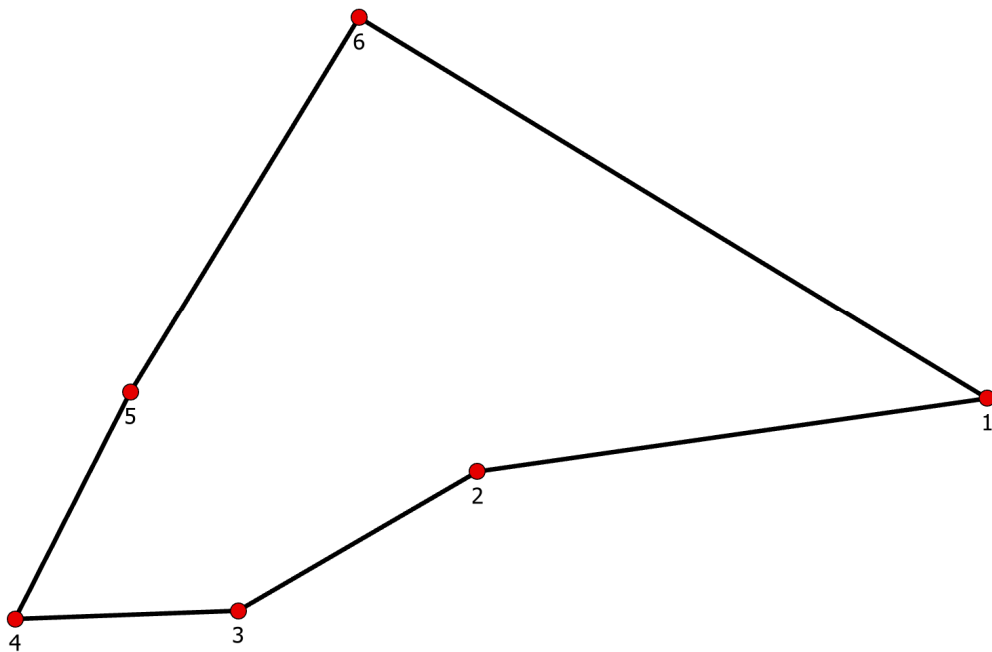
Figure 5-10 Conceptual understanding of the Kriegers Flak II North above and Kriegers Flak II South below, according to [A132994-1-2 Havbund og geologiske forhold for Nord-søen I, Hesselø og Kriegers Flak II \(ens.dk\)](#). Kriegers Flak II North and South are located close to the existing wind farm: Kriegers Flak.

Annex 1 – Area of investigation - Kattegat II



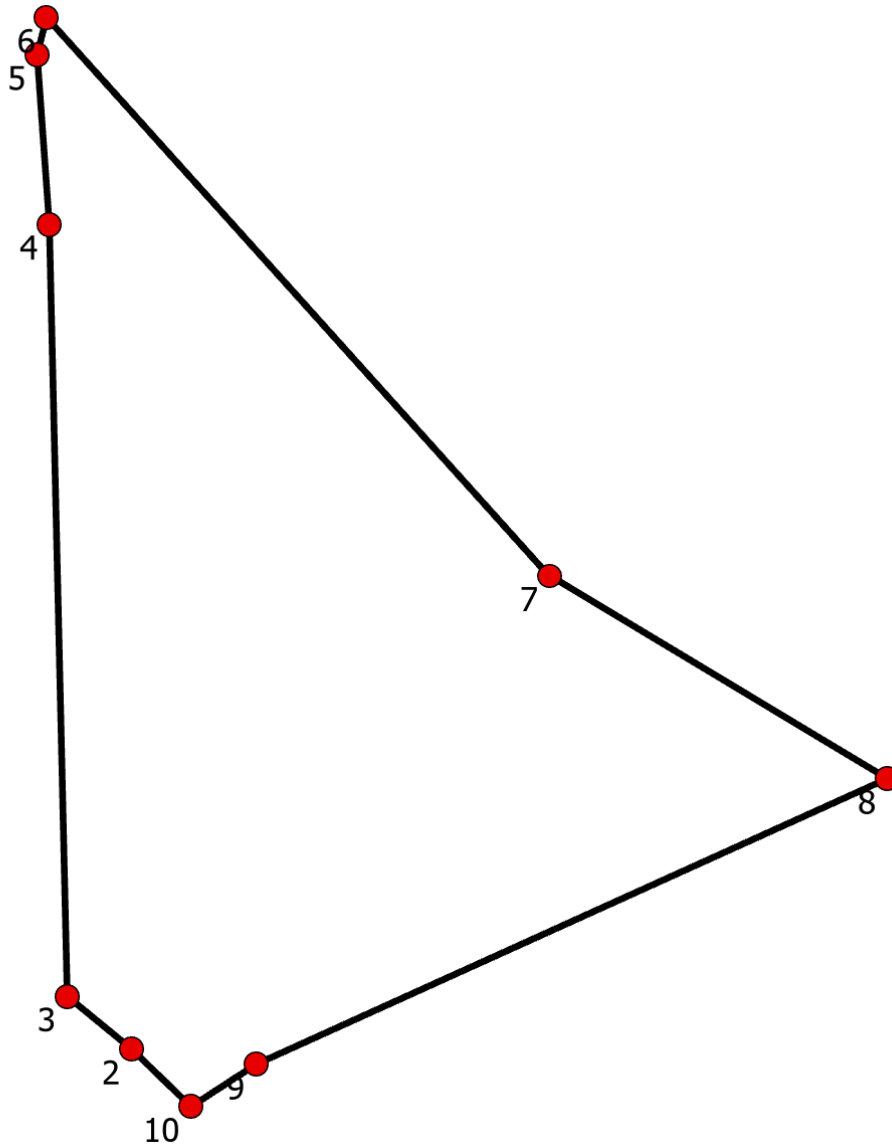
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1	633170	6243935	11° 09.200' E	56° 19.284' N
2	633299	6245712	11° 09.379' E	56° 20.239' N
3	633285	6248250	11° 09.443' E	56° 21.607' N
4	633363	6248635	11° 09.530' E	56° 21.813' N
5	634414	6250716	11° 10.614' E	56° 22.916' N
6	650544	6259071	11° 26.561' E	56° 27.125' N
7	644273	6247861	11° 20.091' E	56° 21.204' N
8	638829	6247677	11° 14.804' E	56° 21.203' N
9	633257	6233058	11° 08.956' E	56° 13.424' N

Annex 2 - Hesselø South



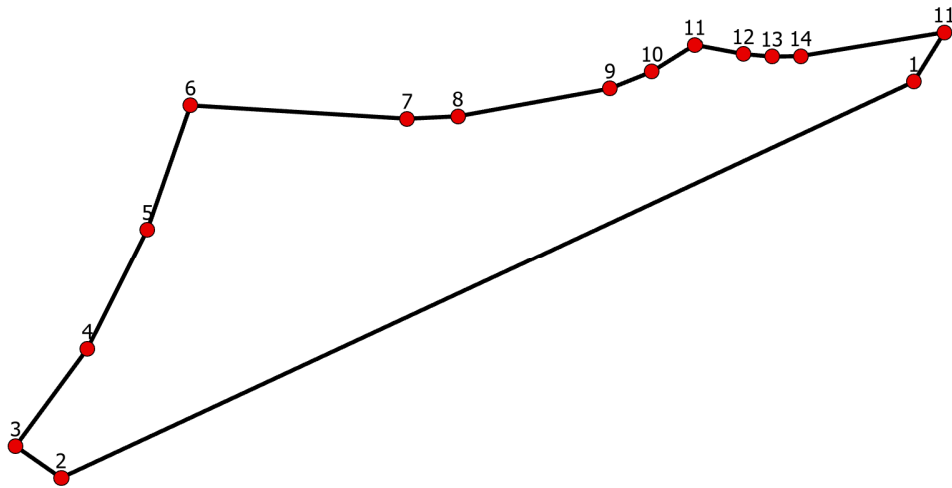
Point ID	Easting EUREF89 Zone 32N [meter]	Northing EUREF89 Zone 32N [meter]	Longitude EUREF89	Latitude EUREF89
1	680400	6247230	11° 55.099' E	56° 20.121' N
2	667356	6245357	11° 42.383' E	56° 19.400' N
3	661231	6241793	11° 36.317' E	56° 17.608' N
4	655523	6241583	11° 30.781' E	56° 17.610' N
5	658472	6247391	11° 33.847' E	56° 20.679' N
6	664326	6256983	11° 39.884' E	56° 25.724' N

Annex 3 - Kriegers Flak II North



Point ID	Easting EUREF89 Zone 33N [meter]	Northing EUREF89 Zone 33N [meter]	Longitude EUREF89	Latitude EUREF89
1	353249	6107805	12° 42.013' E	55° 05.714' N
2	352406	6108773	12° 41.192' E	55° 06.221' N
3	351492	6109665	12° 40.304' E	55° 06.685' N
4	352240	6121568	12° 40.635' E	55° 13.110' N
5	352278	6124191	12° 40.589' E	55° 14.524' N
6	352472	6124750	12° 40.754' E	55° 14.829' N
7	359463	6115493	12° 47.623' E	55° 09.964' N
8	364387	6111923	12° 52.360' E	55° 08.123' N
9	354306	6108369	12° 42.989' E	55° 06.036' N

Annex 4 - Kriegers Flak II South



Point ID	Easting EUREF89 Zone 33N [meter]	Northing EUREF89 Zone 33N [meter]	Longitude EUREF89	Latitude EUREF89
1	374855	6088381	13° 02.824' E	54° 55.602' N
2	374063	6087320	13° 02.111' E	54° 55.018' N
3	353844	6079945	12° 43.424' E	54° 50.715' N
4	352871	6080758	12° 42.490' E	54° 51.136' N
5	354699	6082840	12° 44.136' E	54° 52.289' N
6	356300	6085453	12° 45.553' E	54° 53.725' N
7	357526	6088197	12° 46.617' E	54° 55.224' N
8	362437	6087470	12° 51.232' E	54° 54.915' N
9	363601	6087425	12° 52.323' E	54° 54.910' N
10	367122	6087758	12° 55.607' E	54° 55.147' N
11	368112	6088061	12° 56.524' E	54° 55.326' N
12	369138	6088585	12° 57.470' E	54° 55.624' N
13	370229	6088281	12° 58.499' E	54° 55.478' N
14	370875	6088166	12° 59.107' E	54° 55.425' N
15	371530	6088121	12° 59.721' E	54° 55.412' N