

Survey report for marine raw material mapping for the Danish Environmental Protection Agency 2024

Geophysical survey in Danish waters

Thomas Vangkilde-Pedersen, Niels Nørgaard-Pedersen,
Sigurd B. Andersen, Luna H. Winther & Julie C. Steen

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Content

1.	Summary	3
2.	Introduction and purpose	4
3.	Survey activities	5
4.	Personnel	8
5.	Equipment	9
5.1	Acquisition geometry	9
5.2	Positioning and motion sensor system	11
5.3	Multibeam and side scan sonar	12
5.3.1	Sound velocity profiles (SVP)	13
5.3.2	Patch test	13
5.4	Sub-bottom profiler	14
5.5	Sparker seismic system.....	15
6.	Concluding remarks	16

Appendices

Appendix A Geophysical survey log

Appendix B Line maps of survey areas

1. Summary

GEUS has carried out a geophysical survey for the Danish Environmental Protection Agency (Miljøstyrelsen, MST) as part of their marine raw material mapping in 2024. The survey is hereafter referred to as the MST 2024 survey. The investigations included 16 areas wide-spread throughout the Danish waters and the survey activities were carried out using the survey vessel Arctic Ocean provided by Foga ApS.

The purpose of the survey was to acquire geophysical data including multibeam echosounder, side scan sonar, sub-bottom profiler, and sparker seismic to improve the knowledge of raw material resources in Danish waters. One priority was to acquire new or additional data in selected so-called “Fællesområder” and “Potentielle Fællesområder” with poor or no data coverage. Another priority was to acquire data in selected parts of raw material zones (development zones for natural resource extraction) in Denmark’s maritime spatial plan.

The survey started September 13 and was completed September 27. The investigations included 13 combined so-called “Fællesområder” and “Potentielle Fællesområder” as well as 3 raw material zones (development zones for natural resource extraction) in Denmark’s maritime spatial plan. A total of 1382 km seismic data were recorded.

The mobilization of the survey vessel and equipment took place on September 13-15 in Køge and the survey started September 15 in Køge Bugt upon completion of equipment test. From September 15 to September 19, data were acquired in the Mosede, Grønnerevle, Lysegrunde, Bolsaks, Hasmark and Tørresø areas, only interrupted by a short port call in Hundested to pick up a backup side scan sonar instrument on September 16.

On September 19, a 4-hour port call was made in Aarhus to replace rental equipment with GEUS’ Innomar sub-bottom profiler and EdgeTech 6205 combined side scan sonar/multibeam, which had been used in another GEUS survey. From September 19 to September 24, data were acquired in the Fløjstrup Skov, Wulffs Flak, Nord for Wulffs Flak, Anholt Øst, Skagens Rev, Jyske Rev C, Jyske Rev Vest, and Jyske Rev E areas, including a patch test for calibration of the multibeam system on a sand bank structure on Skagens Rev.

On September 24 the MST 2024 survey was interrupted by a short survey for Kystdirektoratet near Agger Tange north of Thyborøn. Later the same day, the MST 2024 survey continued with transit to Horns Rev and a short period of weather standby on September 25. From September 25 to September 27, data were acquired in the Horns Rev and Vestkysten areas, and on September 27 demobilization of the survey vessel took place in Esbjerg.

The vessel and survey equipment generally performed satisfactorily and as expected. The weather conditions were generally very good during the survey until the last few days, where the weather became more rough, and a short period of weather standby was necessary. The first quality assessment of the data generally reveals high quality data. The weather conditions during the last few days of the survey had an impact on the data quality, but all data are acceptable and fit for the purpose of the survey.

2. Introduction and purpose

GEUS has carried out a geophysical survey for the Danish Environmental Protection Agency (Miljøstyrelsen, MST) as part of their marine raw material mapping in 2024. The survey is hereafter referred to as the MST 2024 survey. The MST 2024 survey included 16 areas widespread throughout the Danish waters.

The purpose of the MST 2024 survey was to acquire geophysical data including multibeam echosounder, side scan sonar, sub-bottom profiler, and sparker seismic to improve the knowledge of raw material resources in Danish waters. One priority was to acquire new or additional data in selected so-called “Fællesområder” and “Potentielle Fællesområder” with poor or no data coverage. Another priority was to acquire data in selected parts of raw material zones (development zones for natural resource extraction) in Denmark's maritime spatial plan. Thus, the overall aim was to supplement existing data to provide the necessary information for a sustainable management of national marine raw materials by the Danish Environmental Protection Agency.

Before the survey, GEUS worked out a proposal for geophysical activities for the Environmental Protection Agency based on where additional data are needed and a prioritization of areas together with the Agency.

Details of the survey activities are given in section 3, 4 and 5, and an overview of the survey areas is shown in Table 3.1 and Figure 3.2. Details of the survey lines are given in the geophysical survey log in Appendix A and line maps of survey areas are provided in Appendix B.

3. Survey activities

The MST 2024 survey was carried out using the survey vessel Arctic Ocean (Figure 3.1) provided by Foga ApS. The survey areas included 13 combined “Fællesområder” and “Potentielle Fællesområder” as well as 3 raw material zones. An overview of the survey areas is given in Table 3.1 and Figure 3.2. A total of 1382 km seismic data were recorded. Details of the survey lines are given in the geophysical survey log in Appendix A and line maps of survey areas are provided in Appendix B.



Figure 3.1 Survey vessel Arctic Ocean.

Table 3.1 Overview of survey areas. Details of the survey lines are included in Appendix A and B.

Area name	Area type	Survey lines (km)
Mosedø	Fællesområde/Potentielt fællesområde	40,2
Grønnerevle	Fællesområde/Potentielt fællesområde	77,6
Lysegrunde	Fællesområde/Potentielt fællesområde	109,3
Bolsaks	Fællesområde/Potentielt fællesområde	129,3
Hasmark	Fællesområde/Potentielt fællesområde	133,6
Tørresø	Fællesområde/Potentielt fællesområde	103,2
Fløjstrup Skov	Fællesområde/Potentielt fællesområde	32,1
Wulffs Flak	Fællesområde/Potentielt fællesområde	52,6
Nord for Wulffs Flak	Fællesområde/Potentielt fællesområde	24,4
Anholt Øst	Fællesområde/Potentielt fællesområde	53,5
Skagens Rev	Fællesområde/Potentielt fællesområde	35,9
Skagens Rev (Patch test)	Patch test	26,5
Jyske Rev C	Fællesområde/Potentielt fællesområde	66
Jyske Rev Vest	Raw material zone	104,7
Jyske Rev E	Fællesområde/Potentielt fællesområde	135,2
Horns Rev	Raw material zone	153,8
Vestkysten	Raw material zone	104,1
Total (km)		1382

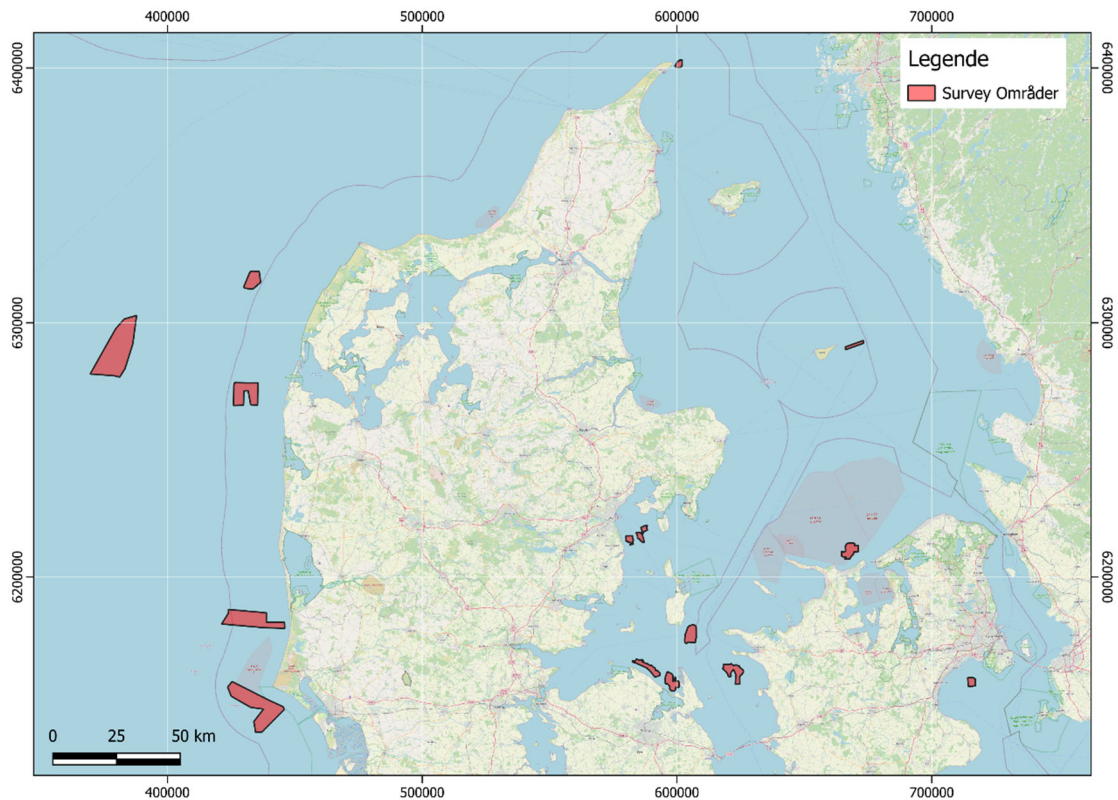


Figure 3.2 Overview of the survey areas. Details of the survey lines are included in Appendix A and B.

The mobilization of the survey vessel and equipment took place on September 13-15 in Køge.

The survey started September 15 in Køge Bugt upon completion of equipment test. The area Mosede in Køge Bugt were first surveyed, and late in the evening September 15 transit to Grønnerevle northwest of Hundested took place. The Grønnerevle area was surveyed on September 16-17 interrupted by a short port call in Hundested to pick up a backup side scan sonar instrument. Hereafter transit to Lysegrunde in northern Storebælt took place. Lysegrunde and the nearby Bolsaks area southeast of Samsø were surveyed on September 17-18, and hereafter transit to the survey areas Hasmark and Tørresø north of Fyn took place. The areas Hasmark and Tørresø were surveyed on September 18-19, followed by transit to Aarhus.

In Aarhus a 4-hour port call was made to replace rental equipment with GEUS' Innomar sub-bottom profiler and EdgeTech 6205 combined side scan sonar/multibeam, which had been used in another GEUS survey. Hereafter the three Aarhus Bugt areas Fløjstrup Skov, Wulffs Flak and Nord for Wulffs Flak were surveyed on September 19-20.

The survey continued September 20 in the Anholt Øst area in Kattegat and on September 21 the Skagens Rev area was surveyed. A patch test for calibration of the multibeam system took place on a sand bank structure on Skagens Rev. Hereafter transit to the Jyske Rev area

in the North Sea took place. The areas Jyske Rev C, Jyske Rev Vest, and Jyske Rev E were surveyed on September 22-23.

On September 24 the MST 2024 survey was interrupted by a short survey for Kystdirektoratet near Agger Tange north of Thyborøn. In the evening of September 24, the MST 2024 survey continued with a transit southward to Horns Rev. Rough weather conditions caused a short period of weather standby at Horns Rev on September 25, but in the evening, conditions had improved, and the survey continued in the Horns Rev area and in the Vestkysten area southwest of Ringkøbing Fjord. In the early morning on September 27 the last planned survey lines were completed and transit to Esbjerg took place for demobilization. The demobilization of the survey vessel was completed during the day on September 27.

4. Personnel

Apart from the professional ship crew, GEUS had a crew of 5 people in total manning the MST 2024 survey. GEUS personnel was responsible for the geophysical data acquisition. Two technicians carried out the mobilization and the sailing crew was formed by two surveyors and one technician. One GEUS MST representative was responsible for the on-site quality control of the data. The personnel were:

- Niels Nørgaard-Pedersen (Cruise lead/senior geologist/surveyor)
- Julie C. Steen (Geologist/surveyor)
- Sigurd B. Andersen (Marine technician, mobilization/onboard)
- Luna H. Winther (Geologist, MST representative)
- Lars-Georg Rödel (Marine technician, mobilization)

5. Equipment

The data acquisition comprised multibeam echosounder, side scan sonar, sub-bottom profiler and single channel sparker seismic. The Geophysical equipment used during the MST 2024 survey is summarized in Table 5.1. Survey lines were defined in the HyPack64 2022 software.

Table 5.1 Overview of geophysical equipment used for the MST 2024 survey.

Geophysical equipment		
Navigation & Motion Sensor		
Applanix PosMV	IMU TYPE 45 IMU SN: 2374	In use: 14/09/2024-27/09/2024
Bathymetry & Side Scan Sonar		
EdgeTech 6205 Frequency 230/550 kHz	Top Unit SN: 50845 Transducer SN: 50828	In use: 19/09/2024-27/09/2024
Sound Velocity Profiler		
Valeport Mini CTD	SN: 45860	In use: 19/09/2024-27/09/2024
Side Scan Sonar		
EdgeTech 4205 MP Frequency 120/410 kHz	Top Unit SN: 61586 Fish SN: 61725	In use: 14/09/2024-16/09/2024
EdgeTech 4200 MP Frequency 300/600 kHz	Top Unit SN: 61586 Fish SN: 40871	In use: 16/09/2024-19/09/2024
Nørlau winch & hydraulic station	950 m coax tow cable MKII cable counter	In use: 14/09/2024-19/09/2024
Sub-bottom Profiler		
Innomar SES 2000 Standard	Top Unit SN: 2014/04/D/46/A2 Transducer: A2049-4	In use: 14/09/2024-19/09/2024
Innomar SES 2000 Medium	Top Unit SN: 2012/02/12E	In use: 19/09/2024-27/09/2024
Sparker		
Geo-Spark 1000 power supply Geo-Source 200 source Single channel streamer		In use: 14/09/2024-27/09/2024
Chesapeake 5 channel A/D interface	SN: AU 103754	In use: 14/09/2024-27/09/2024
Krohn-Hite 3362 dual channel filter	SN: JH1422	In use: 14/09/2024-27/09/2024

5.1 Acquisition geometry

The setup of the geophysical equipment relative to the vessel is shown in Figure 5.1, Figure 5.2 and Figure 5.3.

All recording equipment were installed in a GEUS survey container serving as survey office, data- and control-center. The survey container was located on the main deck of the survey vessel.

Two GNSS antennas for the Applanix PosMV-system were mounted on top of the survey container.

The Innomar SES 2000 and EdgeTech 6205 transducers were mounted on a GEUS customized dual sensor bracket on a fixed survey pole in the port side of the vessel.

The Applanix IMU was mounted very close to the survey pole and was used as positioning reference point (PRP).

The EdgeTech 4205 MP and 4200 MP side scan sonar fish were towed from the A-frame on the stern of the vessel and the hydraulic winch with the tow cable was located on the main deck.

The sparker source was towed from the stern of the vessel in the starboard side and the streamer was towed from a boom in the starboard side.

From the start of the survey an Innomar SES 2000 Standard instrument was used together with the towed EdgeTech 4205/4200 side scan fish and the sparker seismic system and the Innomar sub-bottom profiler was used as single beam echosounder as well. On September 19 an Innomar SES 2000 Medium instrument and a polemounted EdgeTech 6205 combined side scan sonar and multibeam echosounder was installed and used together with the sparker seismic system for the remaining part of the survey.

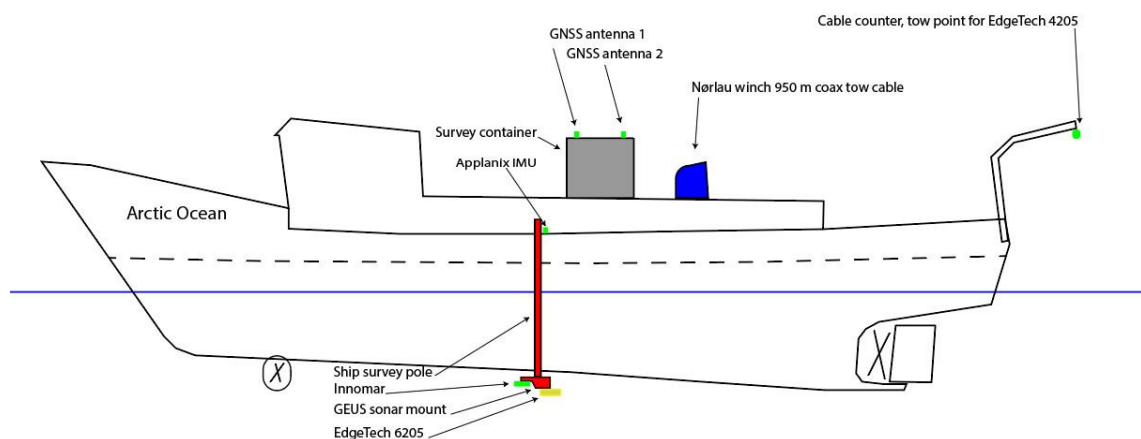


Figure 5.1 Side-view of the arrangement of the geophysical equipment on board Arctic Ocean during the MST 2024 survey. The IMU unit of the Applanix PosMV system, located very close to the survey pole on the port side, was used as positioning reference point (PRP).

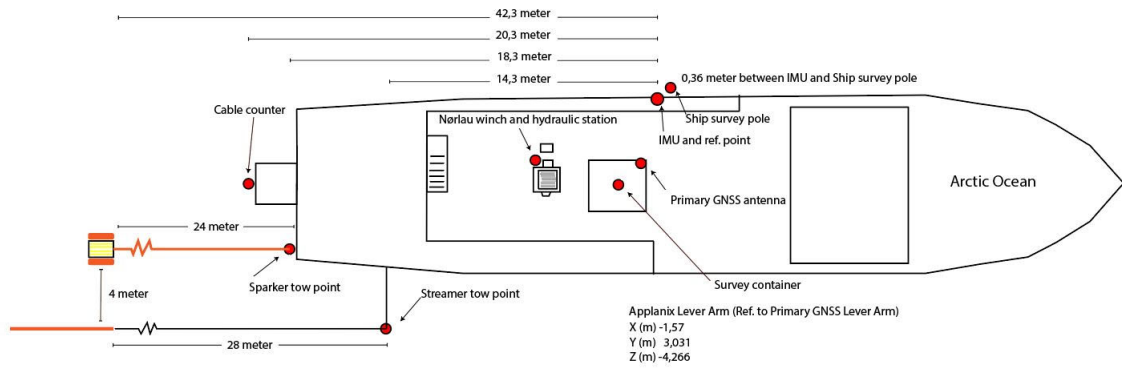


Figure 5.2 Top-view of the arrangement of the geophysical equipment on board Arctic Ocean during the MST 2024 survey. The IMU unit of the Applanix PosMV system, located very close to the survey pole on the port side, was used as positioning reference point (PRP).

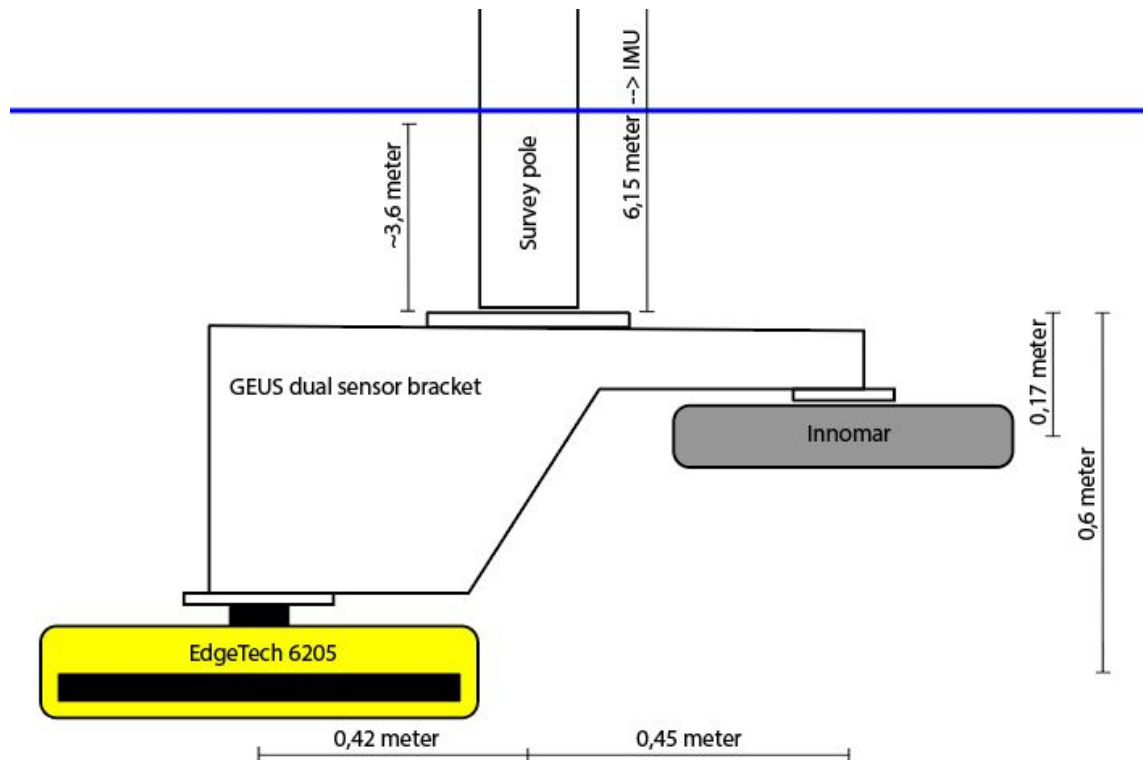


Figure 5.3 Sketch of GEUS sonar mount.

5.2 Positioning and motion sensor system

The GNSS antennas for the Applanix PosMV positioning and motion sensor system (Figure 5.4) were located on the roof of GEUS' survey container on the main deck of Arctic Ocean. The primary antenna was mounted 2 m in front of the secondary antenna (along the orientation of the vessel).

The Inertial Motion Sensor (IMU) unit was placed on the side of the vessel (on the gunwale) 0,36 meter behind the survey pole (along the orientation of the vessel) for the EdgeTech multibeam/side scan unit and the IMU was chosen as the positioning reference point (PRP). The Applanix PosMV merges position data from the Global Navigation Satellite System (GNSS) and NTRIP RTK corrections with angular rate and acceleration data from the IMU, together with heading from the GNSS Azimuth Measurement System (GAMS) to produce a robust and accurate full six degrees-of-freedom position and orientation solution. The positioning and motion sensor data were distributed to the respective acquisition software using HyPack64 2022 software.

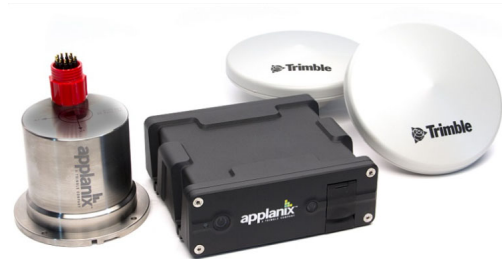


Figure 5.4 The Applanix PosMV positioning and motion sensor system.

5.3 Multibeam and side scan sonar

In the beginning of the survey only side scan sonar and no multibeam data were recorded. The side scan data were recorded using an EdgeTech 4205 MP side scan fish, but due to technical problems it was replaced with an EdgeTech 4200 MP side scan fish after a few days. Both the 4205 and the 4200 fish were towed from the A-frame on the stern of the vessel with dynamic layback. The hydraulic winch with the tow cable was located on the main deck.

Later, on September 19, the EdgeTech 4205/4200 MP was replaced with an EdgeTech 6205 combined multibeam and side scan sonar, and the transducer was mounted on a survey pole on the port side of the vessel.

Both the EdgeTech 4200/4205 MP and EdgeTech 6205 were operated in a low frequency band and a high frequency band. The recording range was 100 m to each side, i.e. a total width of 200 m. Details of the equipment are given in Table 5.2

Table 5.2 Details of the multibeam and side scan sonar equipment.

Center Frequency (EdgeTech 4200 MP)	300/600 kHz
Center Frequency (EdgeTech 4205 MP)	120/410 kHz
Center Frequency (EdgeTech 6205)	230/550 kHz
Recording range (per side)	100 m
Depth of acoustic center below PRP (6205)	6,75 m
Pingrate	100 % of possible rate (depending on water depth)
Acquisition software	EdgeTech Discover

5.3.1 Sound velocity profiles (SVP)

Nine sound velocity profiles (SVP) were obtained during the MST 2024 survey (see also Appendix A). The profiles were obtained with a Valeport Mini CTD probe manually dropped to the seafloor with a vessel speed close to 0 kn. The SVP locations were widespread across the survey areas and taken roughly every 24 hours to ensure adequate coverage of velocity measurements in the water column to calibrate the multibeam data (Figure 5.5).

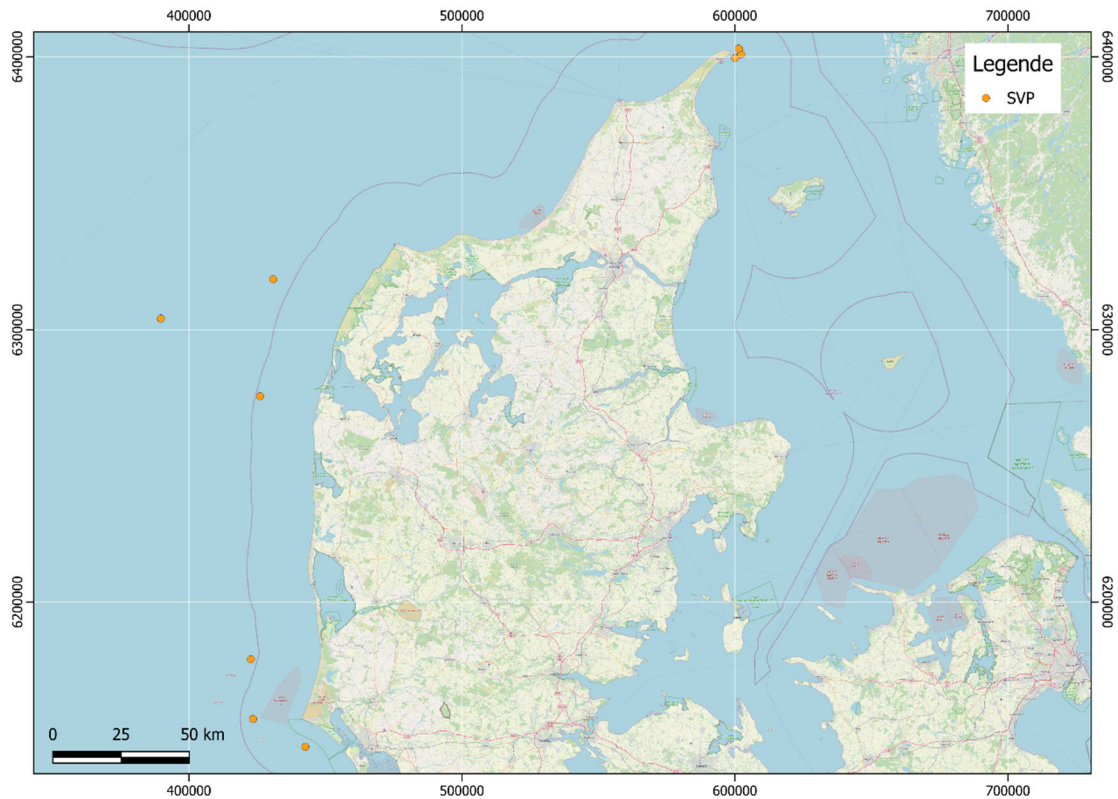


Figure 5.5 Location of SVP measurements, see also Appendix A.

5.3.2 Patch test

A Calibration of the multibeam system through a patch test was performed to 1) determine the mount angles of the multibeam transducer (roll, pitch and heading) in relation to the local coordinate system and the IMU; and 2) confirm the relationship between the time tagging on the multibeam and position data.

The patch test was carried out by sailing three parallel lines perpendicular to a sharp linear morphological feature (Figure 5.6) and one line along the feature. During the MST 2024 survey, a sand bank located offshore Skagen served as morphological feature for the patch test performed on September 21. Each line was sailed in both directions and one line was repeated with increased survey speed in both directions.

The patch test fulfil the calibration of: a) time validation: Lines surveyed at normal survey speed and repeated with the same heading at increased survey speed; b) pitch: Three lines

surveyed twice with opposite headings; c) roll: Lines surveyed with opposite headings on flat seafloor; and d) heading: Two parallel lines surveyed with the same heading with approximately 3/4 of the full coverage in separation allowing swath overlap.

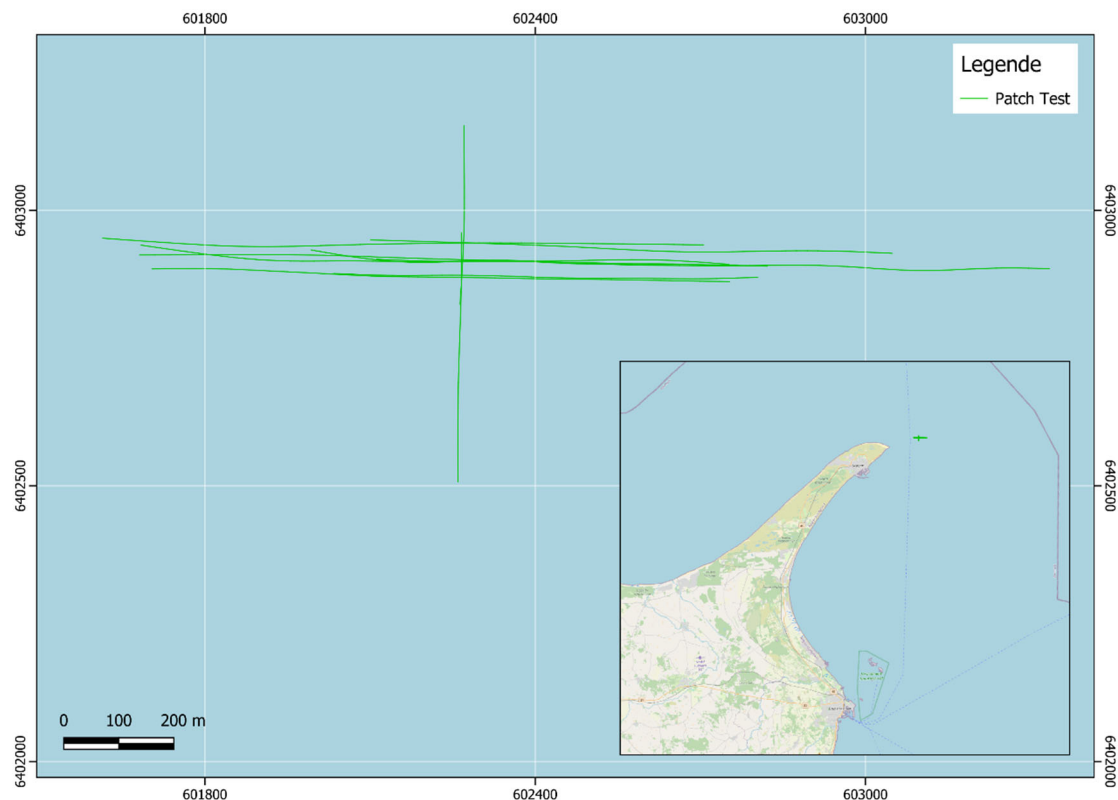


Figure 5.6. Location and survey lines of the patch test during the MST 2024 survey.

5.4 Sub-bottom profiler

The Innomar sub-bottom profiler was also mounted on the port pole in front of the EdgeTech 6205 transducer. The SES 2000 Standard transducer was mounted on an adaptor flange 0,3 m lower than the SES 2000 Medium.

The Innomar was operated in both a low frequency band and a high frequency band. The trigger interval was synchronized with the multibeam (and thus changing with water depth) to avoid noise from the Innomar in multibeam data. Details of the equipment are given in Table 5.3. Data were recorded in the software SESWIN from Innomar.

Table 5.3 Details of the sub-bottom profiler equipment.

Primary frequencies (SES 2000 Standard)	15 kHz and 100 kHz
Primary frequencies (SES 2000 Medium)	8 kHz and 100 kHz
LF Gain	0 dB
HF Gain	0 dB
Trigger interval	Synchronized with EdgeTech or internal
Depth of acoustic center below PRP (SES 2000 Standard)	6,62 m
Depth of acoustic center below PRP (SES 2000 Medium)	6,32 m
Pulse energy level	2 (possible range 1-5)

5.5 Sparker seismic system

The sparker source and streamer were towed 24 m behind the vessel and with the streamer 4 m to the starboard side of the source. The streamer was an 8-element single channel streamer. Data were recorded in the SonarWiz software using a Chesapeake 5 channel A/D interface and a Krohn-Hite 3362 dual channel filter. Details of the equipment are given in Table 5.4

Table 5.4 Details of the sparker seismic equipment.

Power supply	Geo-Spark 1000
Power output	400 J
Sparker source	Geo-Source 200 (200 tips)
Layback from positioning reference point	42,3 m
Layback from vessel stern	24 m
Offset from positioning reference point	9 m to starboard
Firing interval	2,5 Hz (each 400 ms)
Streamer	Design Project 8-element single channel
Layback from positioning reference point	42,3 m
Layback from vessel stern	24 m
Offset from positioning reference point	13 m to starboard
Acquisition software	SonarWiz (Chesapeake A/D interface and Krohn-Hite filter)
Sample interval	0,1 ms
Record length	200 ms

6. Concluding remarks

GEUS has carried out a geophysical survey in Danish waters for the Danish Environmental Protection Agency (Miljøstyrelsen, MST) as part of their marine raw material mapping in 2024.

The MST 2024 survey was conducted from September 13 to September 27 from the survey vessel Arctic Ocean provided by Foga ApS. A total of 1382 km seismic data were recorded and the vessel and survey equipment generally performed satisfactorily and as expected.

The weather conditions were generally very good during the survey until the last few days, where the weather became more rough, and a short period of weather standby was necessary.

The first quality assessment of the data generally reveals high quality data. The weather conditions during the last few days of the survey had an impact on the data quality, but all data are acceptable and fit for the purpose of the survey.

Appendix A – Geophysical survey log

Contractor: Miljøstyrelsen				Project name: MST raw material mapping 2024				Survey crew: Niels Nørgaard-Pedersen (NNP), Julie C. Steen (JC), Sigurd B. Andersen (SBA) MST representative: Luna H. Winther (LHW)				Vessel: Arctic Ocean (Call sign OZGP2)					
Initials	Date	Start time ^{UTC}	End time ^{UTC}	Line name:	Nav file name	Subbottom profiler	Seismic	Side scan sonar	Echosounder	Heading	Line length km	Accumulated length km	Wind m/sec	Sea state	backup Data status	Comments	
NNP	14/09/2024	18:40												5	1	Transit fra Kåge mod Mosede survey område	
NNP	14/09/2024	19:45														Udstyr i vandet	
NNP	14/09/2024	23:15					test1 mosedede									Testlinje for sparker optimering	
NNP	14/09/2024	23:30														Ingen Side Scan signal	
NNP	15/09/2024	3:10														Anløb Kåge Havn for Side Scan rep.	
NNP	15/09/2024	12:14														Afsøjler Kåge for survey i Mosede område	
NNP	15/09/2024	13:55														Udstyr i vandet	
NNP	15/09/2024	14:09	14:29	MO 01	0001_1412	MST24_MO_01_20240915_140940		MST24_MO_01	MST24_MO_01	87			2	1	x	Innomar warning failure Low voltage, shut down immediately. Innomar tid synkroniseret med andre instrumenter efter linje	
NNP	15/09/2024	14:29	14:56	MO 02	0002_1429	MST24_MO_02_20240915_143542		MST24_MO_02	MST24_MO_02	267			2	1	x		
NNP	15/09/2024	14:56	14:56	MO 03	0003_1456	MST24_MO_03_20240915_145810		MST24_MO_03	MST24_MO_03	356			2	1	x		
JCI	15/09/2024	15:16	15:37	MO 04	004_1514	MST24_MO_04_20240915_151613		MST24_MO_04	MST24_MO_04	87			2	1	x		
NNP	15/09/2024	15:37	16:08	MO 05	05_1536	MST24_MO_05_20240915_153724		MST24_MO_05	MST24_MO_05	184			3	1	x		
JCI	15/09/2024	16:08	16:39	MO 06	0006_1606	MST24_MO_06_20240915_160843		MST24_MO_06	MST24_MO_06	357			3	1	x		
JCI	15/09/2024	16:39	17:07	MO 07	0007_1638	MST24_MO_07_20240915_163946		MST24_MO_07	MST24_MO_07	177			5	1	x	Sharp turn to avoid sailingboat. No sparker data	
JCI	15/09/2024	17:07	17:37	MO 08	0008_1706	MST24_MO_08_20240915_170740		MST24_MO_08	MST24_MO_08	357			5	1	x	No sparker data	
JCI	15/09/2024	17:37	18:06	MO 09	0009_1736	MST24_MO_09_20240915_173715		MST24_MO_09	MST24_MO_09	177			5	1	x	No sparker data	
JCI	15/09/2024	18:06	18:37	MO 10	0010_1805	MST24_MO_10_20240915_180630		MST24_MO_10	MST24_MO_10	357			4	1	x	No sparker data	
NNP	15/09/2024	18:37	19:05	MO 11	0011_1836/0011_1852	MST24_MO_11_20240915_183712		MST24_MO_11	MST24_MO_11	177			4	1	x	No sparker data	
NNP	15/09/2024	19:41	20:08	MO 11	0012_1941/0011_1955	-		MST24_MO_11	-	357			4	1	x	Linjer med manglende sparkerdato søjles igen	
JCI	15/09/2024	20:08	20:36		0010_2008	-		MST24_MO_10	-	177			4	1	x		
JCI	15/09/2024	20:36	21:04		0009_2036	-		MST24_MO_09	-	357			4	1	x		
JCI	15/09/2024	21:04	21:27		0008_1204	-		MST24_MO_08	-	177			4	1	x		
NNP	15/09/2024	21:31	22:00		0007_2131	-		MST24_MO_07	-	357	40,2	40,2	4	1	x	Første del af linje uden sparkerdato pga programmerbrud	
NNP	15/09/2024	21:25														Udstyr op og forlæsning til Grønne revle	
NNP	16/09/2024	7:00														Ank. til Grønne Revle survey område	
NNP	16/09/2024	7:25															
NNP	16/09/2024	7:33	7:47	GRR_01	0001_0733	MST24_GRR_01_20240916_073406		MST24_GRR_01	MST24_GRR_01	225			5	1	x	Udfald af side scan efter halve linje søjlet	
NNP	16/09/2024	7:47	8:01	GRR_02	0002_0747	MST24_GRR_02_20240916_074834		MST24_GRR_02	MST24_GRR_02	45			5	1	x	Udfald af side scan efter halve linje søjlet	
		8:01	8:39	GRR_03	0003_0801	MST24_GRR_03_20240916_080248		MST24_GRR_03a	-	225			5	1	x	Side scan fisk op af vandet. Ny Sparker linje 03a	
JCI	16/09/2024	8:39	9:31	GRR_04	0004_0838	MST24_GRR_04_20240916_083950		MST24_GRR_04a	MST24_GRR_04	248			5	1	x	Kort stop for skift af side scan kabel. Side scan fungerer igen. Kort udfald af side scan midt på linje	
JCI	16/09/2024	9:31	10:02	GRR_05	0005_0929	MST24_GRR_05_20240916_093128		MST24_GRR_05	MST24_GRR_05	146			5	1	x		
JCI	16/09/2024	10:02	10:37	GRR_06	0006_1001	MST24_GRR_06_20240916_100252		MST24_GRR_06	MST24_GRR_06	326			5	1	x		
JCI	16/09/2024	10:37	11:21	GRR_07	0007_1035	MST24_GRR_07_20240916_103702		MST24_GRR_07	MST24_GRR_07	146			5	1	x		
JCI	16/09/2024	11:21	11:57	GRR_08	0008_1120	MST24_GRR_08_20240916_112127		MST24_GRR_08	MST24_GRR_08	326			5	1	x		
JCI	16/09/2024	11:57		GRR_09	0009_1157	MST24_GRR_09_20240916_115751		MST24_GRR_09	MST24_GRR_09	146			5	1	x		
NNP	16/09/2024	12:35															
NNP	16/09/2024	15:05														Udstyr op og forlæsning til Hundested for ombordtagnig af GEO Edgetech 4200 til erstatning af GEUS Edgetech 4205 (3 min. i havn)	
NNP	16/09/2024	15:15	15:27	GRR_02	0002_1515	-		-	-	326			7	1	x	Side scan i vandet og genoptagning af Grønne Revle survey	
NNP	16/09/2024	15:27	16:11	GRR_03	0003_1527					146			7	1	x	Rerun af linje med ny side scan Edgetech 4200	
NNP	16/09/2024	16:11	17:00	GRR_10	0010_1611	MST24_GRR_10_20240916_163710		MST24_GRR_10	MST24_GRR_10	248			8	2	x	Rerun af linje med ny side scan Edgetech 4200	
JCI	16/09/2024	17:00	17:42	GRR_11	0011_1707/0012_1719	MST24_GRR_11_20240916_170015		MST24_GRR_11	MST24_GRR_11	326			8	2	x	Monteret flydekugle foran aktive elementer på streamer så den ligger højere i vandet - klart bedre data og mindre dobbeltguls	
JCI	16/09/2024	17:42	18:13	GRR_13	0013_1740	MST24_GRR_13_20240916_174217		MST24_GRR_13	MST24_GRR_13	146			8	2	x		
JCI	16/09/2024	18:13	18:45	GRR_14	0014_1812	MST24_GRR_14_20240916_181344		MST24_GRR_14	MST24_GRR_14	326			8	2	x		
NNP	16/09/2024	18:45	19:19	GRR_15	0015_1845	MST24_GRR_15_20240916_184511		MST24_GRR_15	MST24_GRR_15	146			8	2	x	Flydekugle flyttet til 1,5 m før aktive elementer på streamer	
NNP	16/09/2024	19:19	19:52	GRR_16	0016_1919	MST24_GRR_16_20240916_191943		MST24_GRR_16	MST24_GRR_16	326			8	2	x		
NNP	16/09/2024	19:52	20:20	GRR_17	0017_1951	MST24_GRR_17_20240916_191521		MST24_GRR_17	MST24_GRR_17	146			8	2	x		
SBA	16/09/2024	20:20		GRR_18	0018_2020	MST24_GRR_18_20240916_202111		MST24_GRR_18	MST24_GRR_18	326	77,6	117,8	8	2	x		
		20:45														Udstyr op og forlæsning mod Lysøgrunde	
NNP	17/09/2024	3:10														Udstyr i vandet ved Lysøgrunde	
NNP	17/09/2024	3:25	3:49	LG_1	0001_0326	MST24_LG_01_20240917_032558		MST24_LG_01	MST24_LG_01	180			8	2	x		
NNP	17/09/2024	3:49	4:09	LG_2	0002_0348	MST24_LG_02_20240917_034927		MST24_LG_02	MST24_LG_02	358			8	2	x		
NNP	17/09/2024	4:09	4:32	LG_3	0003_0408	MST24_LG_03_20240917_040936		MST24_LG_03	MST24_LG_03	88			8	2	x		
NNP	17/09/2024	4:32	5:02	LG_4	0004_0431	MST24_LG_04_20240917_040237		MST24_LG_04	MST24_LG_04	178			8	2	x		
NNP	17/09/2024	5:02	5:18	LG_5	0005_0501	MST24_LG_05_20240917_050213		MST24_LG_05	MST24_LG_05	358			8	2	x		
NNP	17/09/2024	5:18	5:42	LG_6	0006_0518	MST24_LG_06_20240917_052001		MST24_LG_06	MST24_LG_06	178			7	2	x		
NNP	17/09/2024	5:42	6:06	LG_7	0007_0541	MST24_LG_07_20240917_054237		MST24_LG_07	MST24_LG_07	88			7	2	x		
NNP	17/09/2024	6:06	6:27	LG_8	0008_0604	MST24_LG_08_20240917_060602		MST24_LG_08	MST24_LG_08	358			7	2	x		
JCI	17/09/2024	6:27	6:59	LG_9	0009_0625	MST24_LG_09_20240917_062749		MST24_LG_09	MST24_LG_09	208			7	2	x		
JCI	17/09/2024	6:59	7:32	LG_10	0010_0658	MST24_LG_10_20240917_065957		MST24_LG_10	MST24_LG_10	88			7	2	x		
JCI	17/09/2024	7:32	7:52	LG_11	0011_0720	MST24_LG_11_20240917_072239		MST24_LG_11	MST24_LG_11	178			6	2	x		
JCI	17/09/2024	7:52	8:13	LG_12	0012_0750	MST24_LG_12_20240917_075211		MST24_LG_12	MST24_LG_12	268			6	2	x	Stort sving for at undvige sejlbåd imellem linje 11 og linje 12	
JCI	17/09/2024	8:13	8:47	LG_13	0013_0811	MST24_LG_13_20240917_081332		MST24_LG_13	MST24_LG_13	358			6	2	x	Stort sving imellem linjerne, kom ikke ind på linjen fra starten.	
JCI	17/09/2024	8:47	9:42	LG_14	0014_0845	MST24_LG_14_20240917_084711		MST24_LG_14	MST24_LG_14	178			6	2	x		
JCI	17/09/2024	9:42	10:37	LG_15	0015_0941	MST24_LG_15_20240917_094236		MST24_LG_15	MST24_LG_15	358			6	2	x		
NNP	17/09/2024	10:37	11:33	LG_16	0016_1036	MST24_LG_16_20240917_103738		MST24_LG_16	MST24_LG_16	178			5	1	x		
NNP	17/09/2024	11:33	12:27	LG_17	0017_1132	MST24_LG_17_20240917_113357		MST24_LG_17	MST24_LG_17	358			6	2	x		
NNP	17/09/2024	12:27	12:58	LG_18	0018_1226	MST24_LG_18_20240917_122751		MST24_LG_18	MST24_LG_18	178			5	2	x		
NNP	17/09/2024	12:58	13:15	LG_19	0019_1258	MST24_LG_19_20240917_125902		MST24_LG_19	MST24_LG_19	268			6	2	x		
NNP	17/09/2024	13:15	13:37	LG_20	0020_1314	MST24_LG_20_20240917_131518		MST24_LG_20	MST24_LG_20	88			7	2	x		
NNP	17/09/2024	13:37	14:06	LG_21	0021_1337	MST24_LG_21_20240917_133738		MST24_LG_21	MST24_LG_21	358			7	2	x		
JCI	17/09/2024	14:06	14:30	LG_22	0022_1405	MST24_LG_22_20240917_140739		MST24_LG_22	MST24_LG_22	268			7	2	x		
JCI	17/09/2024	14:30	14:50	LG_23	0023_1428	MST24_LG_23_20240917_143018		MST24_LG_23	MST24_LG_23	268			7	2	x		
JCI	17/09/2024	14:50	15:08	LG_24	0024_1448	MST24_LG_24_20240917_145001		MST24_LG_24	MST24_LG_24	178			7	2	x		
JCI	17/09/2024	15:08	15:25	LG_25	0025_1507	MST24_LG_25_20240917_150829		MST24_LG_25	MST24_LG_25	358	109,3	227,1	7	2	x		
JCI	17/09/2024	15:25	16:43										7	2		Transit til Bolsøks	
JCI	17/09/2024	16:43	17:30	BO_01	0001_1641	MST24_BO_01_20240917_164330		MST24_BO_01	MST24_BO_01	359			7	2	x	Udstyr forbliver i vandet	
JCI	17/09/2024	17:30	18:23	BO_02	0002_1729	MST24_BO_02_20240917_173034		MST24_BO_02	MST24_BO_02	179			7	2	x		
NNP	17/09/2024	18:23	19:13	BO_03	0003_1821	MST24_BO_03_20240917_182301		MST24_BO_03	MST24_BO_03	359			7	2	x		
NNP	17/09/202																

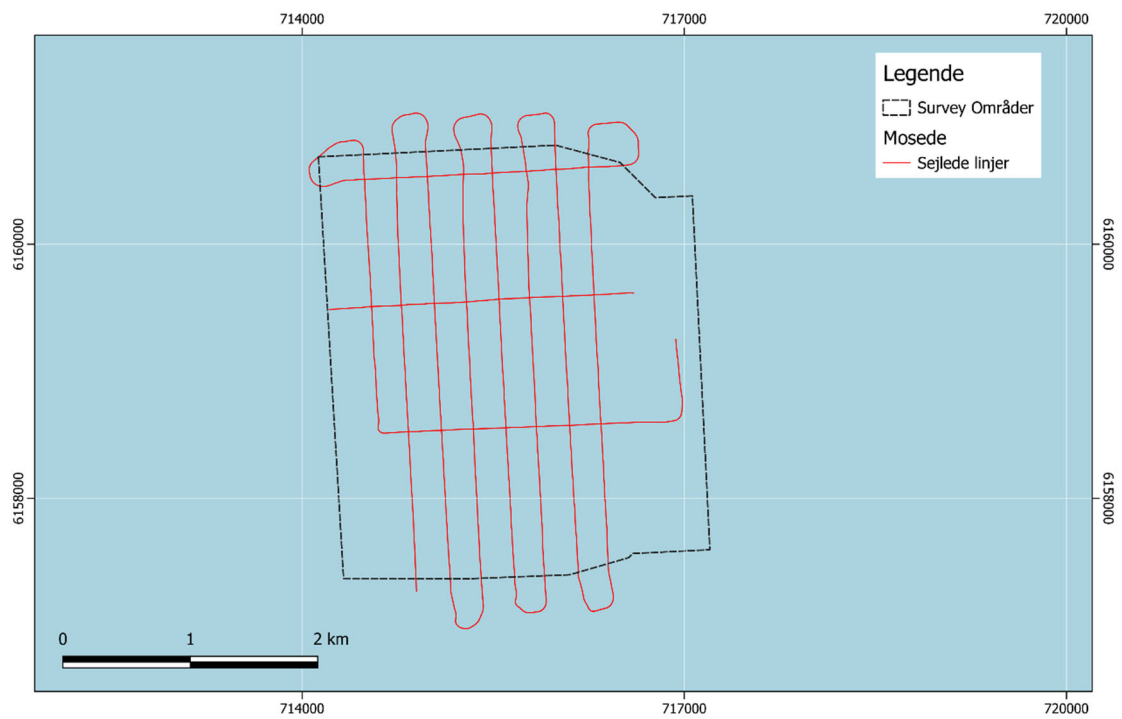
JCI	17/09/2024	22:30	23:19			BO 08	0008.2229		MST24_BO_08_20240917_223046	MST24_BO_08	MST24_BO_08		179			7	2	x	
JCI	17/09/2024	23:19	0:01			BO 09	0009.2318		MST24_BO_09_20240917_231933	MST24_BO_09	MST24_BO_09		359			7	2	x	
JCI	18/09/2024	0:01	0:48			BO 10	0010.0000		MST24_BO_10_20240918_000157	MST24_BO_10	MST24_BO_10		179			7	2	x	
JCI	18/09/2024	0:48	1:29			BO 11	0011.0042		MST24_BO_11_20240918_004848	MST24_BO_11	MST24_BO_11		359			6	2	x	
JCI	18/09/2024	1:29	1:51			BO 12	0012.0127		MST24_BO_12_20240918_012929	MST24_BO_12	MST24_BO_12		89			7	2	x	
JCI	18/09/2024	1:51	2:24			BO 13	0013.0150		MST24_BO_13_20240918_015118	MST24_BO_13	MST24_BO_13		269			7	2	x	
NNP	18/09/2024	2:24	3:03			BO 14	0014.0223		MST24_BO_14_20240918_022451	MST24_BO_14	MST24_BO_14		179			7	2	x	
NNP	18/09/2024	3:03	3:32			BO 15	0015.0302		MST24_BO_15_20240918_030300	MST24_BO_15	MST24_BO_15		359			7	2	x	
NNP	18/09/2024	3:32	4:05			BO 16	0016.0331		MST24_BO_16_20240918_033226	MST24_BO_16	MST24_BO_16		89			7	2	x	
NNP	18/09/2024	4:05	4:42			BO 17	0017.0404		MST24_BO_17_20240918_040524	MST24_BO_17	MST24_BO_17		269			6	2	x	
NNP	18/09/2024	4:42	5:20			BO 18	0017.0441		MST24_BO_18_20240918_044222	MST24_BO_18	MST24_BO_18		89			6	2	x	
NNP	18/09/2024	5:20	5:55			BO 19	0019.0519		MST24_BO_19_20240918_050251	MST24_BO_19	MST24_BO_19		269			6	2	x	
NNP	18/09/2024	5:55	6:31			BO 20	0020.0554		MST24_BO_20_20240918_055555	MST24_BO_20	MST24_BO_20		89			6	2	x	
SBA	18/09/2024	6:31	7:05			BO 21	0021.0630		MST24_BO_21_20240918_063138	MST24_BO_21	MST24_BO_21		269	129,3	356,4	6	2	x	Skipperen stæred på linje 1 i stedet for 21
SBA	18/09/2024	7:05	8:36																Transit til Hæmark
SBA	18/09/2024	8:36	9:11			HM 01	0001.0837_0001		MST24_HM_01_20240918_083659	MST24_HM_01	MST24_HM_01		179			5	2	x	
JCI	18/09/2024	9:11	9:42			HM 02	0002.0909		MST24_HM_02_20240918_083659	MST24_HM_02	MST24_HM_02		358			5	2	x	SSS mistede forbindelse korbårigt
JCI	18/09/2024	9:42	10:09			HM 03	0003.0940		MST24_HM_03_20240918_094208	MST24_HM_03	MST24_HM_03		269			5	2	x	
NNP	18/09/2024	10:09	10:57			HM 04			MST24_HM_04_20240918_100932	MST24_HM_04	MST24_HM_04		89			5	1	x	Planlagt linje 4 og 5 recordet som linje 5
NNP	18/09/2024	10:57	11:17			HM 05	0002.1054		MST24_HM_05_20240918_105728	MST24_HM_05	MST24_HM_05		179			5	1	x	Ekstra transportlinje
NNP	18/09/2024	11:17	11:44			HM 06	0006.1115_0001		MST24_HM_06_20240918_111723	MST24_HM_06a	MST24_HM_06		269			5	1	x	5 min udfald af sidescan
NNP	18/09/2024	11:44	12:29			HM 07	0007.1143		MST24_HM_07_20240918_114427	MST24_HM_07	MST24_HM_07		89			5	1	x	Store sving for at komme ind på linjen, kort udfald af side scan under vending
JCI	18/09/2024	12:29	12:56			HM 08	0008.1227		MST24_HM_08_20240918_122918	MST24_HM_08	MST24_HM_08		359			5	2	x	Skiftet kabel på SS og skiftet til største vinger
JCI	18/09/2024	12:56	13:34			HM 09	0009.1312		MST24_HM_09_20240918_125621	MST24_HM_09	MST24_HM_09		179			4	1	x	
JCI	18/09/2024	13:34	13:55			HM 10	0010.1333		MST24_HM_10_20240918_133437	MST24_HM_10	MST24_HM_10		269			4	1	x	Linjen afsluttes før planlagt grundet lav vanddybde
JCI	18/09/2024	13:55	14:02			HM 11	0011.1353		MST24_HM_11_20240918_135522	MST24_HM_11	MST24_HM_11		359			4	1	x	Linjen startet senere grundet lav vanddybde
JCI	18/09/2024	14:02	14:39			HM 12	0012.1401		MST24_HM_12_20240918_135522	MST24_HM_12	MST24_HM_12		359			4	1	x	
JCI	18/09/2024	14:39	15:30			HM 13	0013.1438		MST24_HM_13_20240918_143907	MST24_HM_13	MST24_HM_13		179			4	1	x	Linjen afsluttes før planlagt grundet lav vanddybde
JCI	18/09/2024	15:30	16:12			HM 14	0014.1528		MST24_HM_14_20240918_14153013	MST24_HM_14	MST24_HM_14		359			5	2	x	Linjen startet senere grundet lav vanddybde
NNP	18/09/2024	16:12	17:03			HM 15	0015.1611		MST24_HM_15_20240918_161252	MST24_HM_15	MST24_HM_15		179			5	2	x	
NNP	18/09/2024	17:03	17:49			HM 16	0016.1701		MST24_HM_16_20240918_170312	MST24_HM_16	MST24_HM_16		359			5	1	x	
NNP	18/09/2024	17:49	18:34			HM 17	0017.1748		MST24_HM_17_20240918_174921	MST24_HM_17	MST24_HM_17		179			5	1	x	
NNP	18/09/2024	18:34	19:15			HM 18	0018.1833		MST24_HM_18_20240918_183454	MST24_HM_18	MST24_HM_18		359			5	1	x	
NNP	18/09/2024	19:15	19:41			HM 19	0019.1914		MST24_HM_19_20240918_191546	MST24_HM_19	MST24_HM_19		269			5	1	x	
NNP	18/09/2024	19:41	20:08			HM 20	0020.1940		MST24_HM_20_20240918_194156	MST24_HM_20	MST24_HM_20		89			5	1	x	
SBA	18/09/2024	20:08	20:54			HM 21	0021.2007		MST24_HM_21_20240918_200829	MST24_HM_21	MST24_HM_21		179			5	2	x	
SBA	18/09/2024	20:54	21:31			HM 22	0022.2052		MST24_HM_22_20240918_205407	MST24_HM_22	MST24_HM_22		359			5	2	x	
JCI	18/09/2024	21:31	22:10			HM 23	0023.2130		MST24_HM_23_20240918_213138	MST24_HM_23	MST24_HM_23		179			5	2	x	Bue uden om ankerlægger
JCI	18/09/2024	22:10	22:43			HM 24	0024.2208		MST24_HM_24_20240918_221006	MST24_HM_24	MST24_HM_24		359			5	2	x	Bue uden om ankerlægger
JCI	18/09/2024	22:43	23:14			HM 25	0025.2242		MST24_HM_25_20240918_224326	MST24_HM_25	MST24_HM_25		179			5	1	x	
JCI	18/09/2024	23:14	23:40			HM 26	0026.2313		MST24_HM_26_20240918_231431	MST24_HM_26	MST24_HM_26		359	133,6	490	4	1	x	
JCI	18/09/2024	23:44	23:56				0001.2340									5	1	x	Transit til Tørrøse
JCI	18/09/2024	23:56	0:06			TS 01	0001.2340		MST24_TS_01_20240918_235640	MST24_TS_01	MST24_TS_01		204			5	1	x	
JCI	19/09/2024	0:06	0:18			TS 02	0002.0004		MST24_TS_02_20240919_000619	MST24_TS_02	MST24_TS_02		294			5	1	x	Afsluttet linje før planlagt grundet lav vanddybde
JCI	19/09/2024	0:18	0:27			TS 03	0003.0016_0001		MST24_TS_03_20240919_001823	MST24_TS_03	MST24_TS_03		114			5	1	x	
JCI	19/09/2024	0:27	0:41			TS 04	0004.0026		MST24_TS_04_20240919_002720	MST24_TS_04	MST24_TS_04		294			5	1	x	
JCI	19/09/2024	0:41	0:58			TS 05	0005.0040		MST24_TS_05_20240919_004142	MST24_TS_05	MST24_TS_05		114			5	1	x	
JCI	19/09/2024	0:58	1:12			TS 06	0006.0057		MST24_TS_06_20240919_005810	MST24_TS_06	MST24_TS_06		294			5	1	x	
JCI	19/09/2024	1:12	1:27			TS 07	0007.0011		MST24_TS_07_20240919_011238	MST24_TS_07	MST24_TS_07		114			5	1	x	
JCI	19/09/2024	1:27	1:39			TS 08	0008.0125		MST24_TS_08_20240919_012707	MST24_TS_08	MST24_TS_08		294			5	1	x	
JCI	19/09/2024	1:39	2:03			TS 09	0009.0138		MST24_TS_09_20240919_013920	MST24_TS_09	MST24_TS_09		204			5	1	x	
JCI	19/09/2024	2:03	2:14			TS 10	0010.0202		MST24_TS_10_20240919_020356	MST24_TS_10	MST24_TS_10		294			5	1	x	
JCI	19/09/2024	2:14	2:23			TS 11	0011.0212_0001		MST24_TS_11_20240919_021440	MST24_TS_11	MST24_TS_11		114			5	1	x	Afviglelse fra linjen grundet lav vanddybde
JCI	19/09/2024	2:23	3:35			TS 12	0012.0222		MST24_TS_12_20240919_022338	MST24_TS_12	MST24_TS_12		294			5	1	x	
JCI	19/09/2024	3:35	4:27			TS 13	0013.0334		MST24_TS_13_20240919_033446	MST24_TS_13	MST24_TS_13		114			5	2	x	
NNP	19/09/2024	4:27	4:51			TS 14	0014.0426		MST24_TS_14_20240919_042727	MST24_TS_14	MST24_TS_14		204			6	2	x	
NNP	19/09/2024	4:51	5:11			TS 15	0015.0450		MST24_TS_15_20240919_045153	MST24_TS_15	MST24_TS_15		24			7	2	x	
NNP	19/09/2024	5:11	5:31			TS 16	0016.0510		MST24_TS_16_20240919_051100	MST24_TS_16	MST24_TS_16		204			6	2	x	
NNP	19/09/2024	5:31	5:51			TS 17	0017.0530		MST24_TS_17_20240919_053137	MST24_TS_17	MST24_TS_17		24			6	2	x	Adskillige bøjer med fiskenet beviker at første del af linje ikke kan sejles, der sejles en bue uden om
NNP	19/09/2024	5:51	6:03			TS 18	0018.0551		MST24_TS_18_20240919_055157	MST24_TS_18	MST24_TS_18		294			6	2	x	
NNP	19/09/2024	6:03	6:20			TS 19	0019.0602		MST24_TS_19_20240919_060342	MST24_TS_19	MST24_TS_19		114			6	2	x	
NNP	19/09/2024	6:20	6:44			TS 20	0020.0619		MST24_TS_20_20240919_062001	MST24_TS_20	MST24_TS_20		204			6	2	x	
NNP	19/09/2024	6:44	7:04			TS 21	0021.0643		MST24_TS_21_20240919_064445	MST24_TS_21	MST24_TS_21		24			6	2	x	
NNP	19/09/2024	7:04	7:23			TS 22	0022.0703		MST24_TS_22_20240919_070446	MST24_TS_22	MST24_TS_22		204			6	2	x	
NNP	19/09/2024	7:23	7:34			TS 23	0023.0722		MST24_TS_23_20240919_072300	MST24_TS_23	MST24_TS_23		294			6	2	x	
NNP	19/09/2024	7:34	7:43			TS 24	0024.0733		MST24_TS_24_20240919_073436	MST24_TS_24	MST24_TS_24		24			7	2	x	
NNP	19/09/2024	7:43	8:47			TS 25	0025.0742		MST24_TS_25_20240919_074328	MST24_TS_25	MST24_TS_25		114			7	2	x	
NNP	19/09/2024	8:47	9:31			TS 26	0027.0931		MST24_TS_26_20240919_084700	MST24_TS_26	MST24_TS_26		294			7	2	x	
SBA	19/09/2024	9:31	10:22			TS 27	0028.0847		MST24_TS_27_20240919_093200	MST24_TS_27	MST24_TS_27		114			7	2	x	
NNP	19/09/2024	10:22				TS 28	0028.1021		MST24_TS_28_20240919_102224	MST24_TS_28	MST24_TS_28		294	103,2	593,2	7	2	x	
NNP	19/																		

JCI	20/09/2024	3:06	3:43		WF 03	0003_0305	MST24_WF_03_20240920_030615	MST24_WF_03	MST24_WF_03		156			5	1	x	
JCI	20/09/2024	3:43	4:19		WF 04	0004_0342	MST24_WF_04_20240920_034313	MST24_WF_04	MST24_WF_04		336			5	2	x	
NNP	20/09/2024	4:19	4:54		WF 05	0005_0418	MST24_WF_05_20240920_041910	MST24_WF_05	MST24_WF_05		156			5	2	x	
NNP	20/09/2024	4:54	5:28		WF 06	0006_0453	MST24_WF_06_20240920_045419	MST24_WF_06	MST24_WF_06		336			7	2	x	
NNP	20/09/2024	5:28	5:57		WF 07	0007_0527	MST24_WF_07_20240920_052816	MST24_WF_07	MST24_WF_07		156			7	2	x	
NNP	20/09/2024	5:57	6:08		WF 08	0008_0557	MST24_WF_08_20240920_055809	MST24_WF_08	MST24_WF_08		66			7	2	x	
NNP	20/09/2024	6:08	6:35		WF 09	0009_0607	MST24_WF_09_20240920_060851	MST24_WF_09	MST24_WF_09		336			7	2	x	
NNP	20/09/2024	6:35	6:49		WF 10	0010_0635	MST24_WF_10_20240920_063542	MST24_WF_10	MST24_WF_10		156			7	2	x	
NNP	20/09/2024	6:49	7:04		WF 11	0011_0648	MST24_WF_11_20240920_064914	MST24_WF_11	MST24_WF_11		245			6	2	x	
NNP	20/09/2024	7:04	7:17		WF 12	0012_0704	MST24_WF_12_20240920_070448	MST24_WF_12	MST24_WF_12		336			6	2	x	
NNP	20/09/2024	7:17	7:34		WF 13	0013_0717	MST24_WF_13_20240920_071738	MST24_WF_13	MST24_WF_13		66			6	2	x	
NNP	20/09/2024	7:34			WF 14	0014_0733	MST24_WF_14_20240920_073409	MST24_WF_14	MST24_WF_14		246	52,6	677,9	6	2	x	
NNP	20/09/2024	7:52												6	2		Transit til NWF
NNP	20/09/2024	7:57	8:25		NWF 01	0001_0757	MST24_WFN_01_20240920_075715	MST24_NWF_01	MST24_NWF_01		65			6	2	x	
NNP	20/09/2024	8:25	8:42		NWF 02	0002_0826	MST24_WFN_02_20240920_082546	MST24_NWF_02	MST24_NWF_02		245			6	2	x	
NNP	20/09/2024	8:42	9:11		NWF 03	0003_0842	MST24_WFN_03_20240920_084259	MST24_NWF_03	MST24_NWF_03		65			6	2	x	Molslinjen færgе bevirker stort sving før linje
NNP	20/09/2024	9:11	9:37		NWF 04	0004_0911	MST24_WFN_04_20240920_091137	MST24_NWF_04	MST24_NWF_04		245			6	2	x	
NNP	20/09/2024	9:37	9:58		NWF 05	0005_0936	MST24_WFN_05_20240920_093720	MST24_NWF_05	MST24_NWF_05		65			6	2	x	
NNP	20-09-2024	9:58	10:24		NWF 06	0006_0957	MST24_WFN_06_20240920_095809	MST24_NWF_06	MST24_NWF_06		155			6	2	x	
NNP	20-09-2024	10:24	10:46		NWF 07	0007_1023	MST24_WFN_07_20240920_102409	MST24_NWF_07	MST24_NWF_07		335	24,4	702,3	6	2	x	
NNP	20-09-2024	11:05															Udstyr op af vandet og forlæsning til Anholt
		18:25															Udstyr i vandet
NNP	20-09-2024	18:30	19:27		AE 01	0001_1827	MST24_AE_01_20240920_183001	MST24_AE_01	MST24_AE_01		70			6	2	x	
NNP	20-09-2024	19:27	20:22		AE 02	0002_1926	MST24_AE_02_20240920_192736	MST24_AE_02	MST24_AE_02		250			6	2	x	
NNP	20-09-2024	20:22	21:16		AE 03	0003_2021	MST24_AE_03_20240920_202230	MST24_AE_03	MST24_AE_03		70			6	2	x	
NNP	20-09-2024	21:16	22:10		AE 04	0004_2115	MST24_AE_04_20240920_211617	MST24_AE_04	MST24_AE_04		250			6	2	x	
JCI	20-09-2024	22:10	22:25		AE 05	0005_2210	MST24_AE_05_20240920_221052	MST24_AE_05	MST24_AE_05		160			6	2	x	
JCI	20-09-2024	22:25	22:41		AE 06	0006_2224	MST24_AE_06_20240920_222538	MST24_AE_06	MST24_AE_06		340			6	2	x	
JCI	20-09-2024	22:41	22:57		AE 07	0007_2240	MST24_AE_07_20240920_224106	MST24_AE_07	MST24_AE_07		160			6	2	x	
JCI	20-09-2024	22:57	23:12		AE 08	0008_2256	MST24_AE_08_20240920_225716	MST24_AE_08	MST24_AE_08		340			6	2	x	
JCI	20-09-2024	23:12	23:28		AE 09	0009_2311	MST24_AE_09_20240920_231227	MST24_AE_09	MST24_AE_09		160			6	2	x	
JCI	20-09-2024	23:28	23:43		AE 10	0010_2327	MST24_AE_10_20240920_232814	MST24_AE_10	MST24_AE_10		340			6	2	x	
JCI	20-09-2024	23:43	23:58		AE 11	0011_2343	MST24_AE_11_20240920_234344	MST24_AE_11	MST24_AE_11		160			6	2	x	
JCI	20-09-2024	23:58	0:15		AE 12	0012_2358	MST24_AE_12_20240920_000000	MST24_AE_12	MST24_AE_12		340	53,5	755,8	6	2	x	
	21-09-2024	0:15	0:35														Udstyr op af vandet
	21-09-2024	0:35															Transit til SR
NNP	21-09-2024	8:45															Udstyr i vandet, SVP V000003 download 21/09/2024 09.25
NNP	21-09-2024	8:47	9:21		SR 05	0004_0933	MST24_SR_05_20240921_084712	MST24_SR_05	MST24_SR_05		38			5	1	x	
NNP	21-09-2024	9:21	9:33		SR 02	0002_0920	MST24_SR_02_20240921_092141	MST24_SR_02	MST24_SR_02		128			5	1	x	
NNP	21-09-2024	9:33	10:03		SR 04	0005_0946	MST24_SR_04_20240921_093357	MST24_SR_04	MST24_SR_04		218			5	1	x	
NNP	21-09-2024	10:03	10:14		SR 08	0008_1003	MST24_SR_08_20240921_100326	MST24_SR_08	MST24_SR_08		308			5	1	x	
NNP	21-09-2024	10:14	10:40		SR 03	0003_1013	MST24_SR_03_20240921_101414	MST24_SR_03	MST24_SR_03		38			5	1	x	
NNP	21-09-2024	10:40	11:03		SR 09	0009_1040	MST24_SR_09_20240921_104026	MST24_SR_09	MST24_SR_09		218			5	1	x	Forlod linjen grundet manglende radiokontakt til selvbåd
JCI	21-09-2024	11:03	11:25		SR 09a	0009_1103	MST24_SR_09a_20240921_110335	MST24_SR_09a	MST24_SR_09a		38			5	1	x	
JCI	21-09-2024	11:25	11:43		SR 10	0010_1125	MST24_SR_10_20240921_112542	MST24_SR_10	MST24_SR_10		218			5	1	x	
JCI	21-09-2024	11:43	11:57		SR 11	0011_1143	MST24_SR_11_20240921_112339	MST24_SR_11	MST24_SR_11		38			5	1	x	
JCI	21-09-2024	11:57	12:14		SR 12	0012_1156	MST24_SR_12_20240921_115715	MST24_SR_12	MST24_SR_12		308			5	1	x	
JCI	21-09-2024	12:14	13:31		SR 13	0013_1214	MST24_SR_13_20240921_121449	MST24_SR_13	MST24_SR_13		128	35,9	791,7	5	1	x	SVP EOL V000011 East 602294.76 North 6400967.93
	21-09-2024	12:58				0001_1258		MST24_Patch_01EW			271			5	1	x	Udstyr op af vandet
JCI	21-09-2024	13:07				0001_1307		MST24_Patch_01WE			91			5	1	x	Ikke fulgt linjen. Ligger mellem linje 2 og 3
JCI	21-09-2024	13:24				0002_1324		MST24_Patch_02EW			271			5	1	x	
JCI	21-09-2024	13:35				0002_1335		MST24_Patch_02WE			91			5	1	x	
JCI	21-09-2024	13:50				0003_1350		MST24_Patch_03EW			271			5	1	x	
JCI	21-09-2024	14:02				0003_1402		MST24_Patch_03WE			91			5	1	x	
JCI	21-09-2024	14:15	14:22			0002_1415		MST24_Patch_02EW_7kn			271			5	1	x	
JCI	21-09-2024	14:22	14:32			0002_1427		MST24_Patch_02WE_7kn			91			5	1	x	
JCI	21-09-2024	14:48	14:55			0001_1448		MST24_Patch_01WE_a			91			5	1	x	SVP V000013
JCI	21-09-2024	15:03	15:06			0004_1503		MST24_Patch_01NS			181			5	1	x	
JCI	21-09-2024	15:11	15:14			0004_1511		MST24_Patch_01SN			1	26,5	818,2	5	1	x	
JCI		15:14	15:28														Udstyr op af vandet
JCI		15:28	2:40														Transit til JRC
JCI	22-09-2024	2:40	2:54														Udstyr i vandet
JCI	22-09-2024	2:54	3:58		JRC 01	0001_0254	MST24_JRC_01_20240922_025449	MST24_JRC_01	MST24_JRC_01		202			6	2	x	
JCI	22-09-2024	3:58	4:42		JRC 02	0002_0358	MST24_JRC_02_20240922_035842	MST24_JRC_02	MST24_JRC_02		23			7	2	x	
NNP	22-09-2024	4:44	5:30		JRC 03	0003_0444	MST24_JRC_03_20240922_044442	MST24_JRC_03	MST24_JRC_03		202			7	2	x	
NNP	22-09-2024	5:30	6:14		JRC 04	0004_0529	MST24_JRC_04_20240922_053021	MST24_JRC_04	MST24_JRC_04		23			7	2	x	
NNP	22-09-2024	6:14	6:59		JRC 05	0005_0614	MST24_JRC_05_20240922_061454	MST24_JRC_05	MST24_JRC_05		202			7	2	x	
NNP	22-09-2024	6:59	7:25		JRC 06	0006_0658	MST24_JRC_06_20240922_065913	MST24_JRC_06	MST24_JRC_06		112			7	2	x	
NNP	22-09-2024	7:25	8:01		JRC 07	0007_0725	MST24_JRC_07_20240922_072550	MST24_JRC_07	MST24_JRC_07		23			8	2	x	
NNP	22-09-2024	8:01	8:15		JRC 08	0008_0800_0001	MST24_JRC_08_20240922_080122	MST24_JRC_08	MST24_JRC_08		293			8	2-3	x	
NNP	22-09-2024	8:15	8:48		JRC 09	0009_0814	MST24_JRC_09_20240922_081513	MST24_JRC_09	MST24_JRC_09		113			8	3	x	
NNP	22-09-2024	8:48	9:05		JRC 10	0010_0847	MST24_JRC_10_20240922_084818	MST24_JRC_10	MST24_JRC_10		203			8	3	x	
NNP	22-09-2024	9:05	9:32		JRC 11	0011_0905	MST24_JRC_11_20240922_090556	MST24_JRC_11	MST24_JRC_11		293			8	3	x	
NNP	22-09-2024	9:32	10:07		JRC 12	0012_0931	MST24_JRC_12_20240922_093220	MST24_JRC_12	MST24_JRC_12		113			8	3	x	
SBA	22-09-2024	10:07	10:41		JRC 13	0013_1007	MST24_JRC_13_20240922_100759	MST24_JRC_13	MST24_JRC_13		293	66,0	884,2	8	3	x	
SBA	22-09-2024	10:41	11:02														Udstyr op af vandet, SVP V000015 430866.72 E, 6318514.28 N, SVP header tid 22/09/2024 12:37:21. PC-tid UTC 11:06.
SBA	22-09-2024	11:05															Transit til Jyske Rev, SVP tid synkroniseret med PC tid efter SVP V000015
JCI	22-09-2024																Udstyr i vandet, SVP 13:45 East 389729.21 North 6304110.05
JCI	22-09-2024	14:04	17:35		JR 01	0001_1404	MST24_JR_01_20240922_140401	MST24_JR_01	MST24_JR_01		213			8	3-4	x	
NNP	22-09-2024	17:35	18:43		JR 02	0002_1735	MST24_JR_02_20240922_173535	MST24_JR_02	MST24_JR_02								

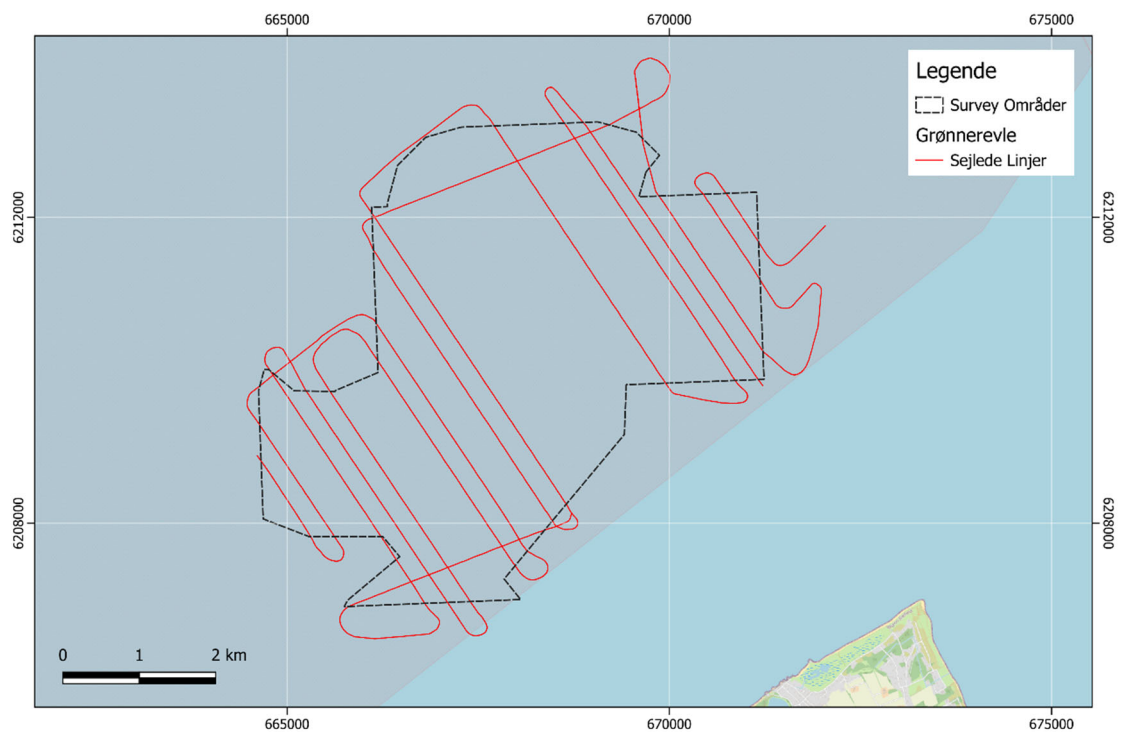
[illegible]

Appendix B – Line maps of survey areas

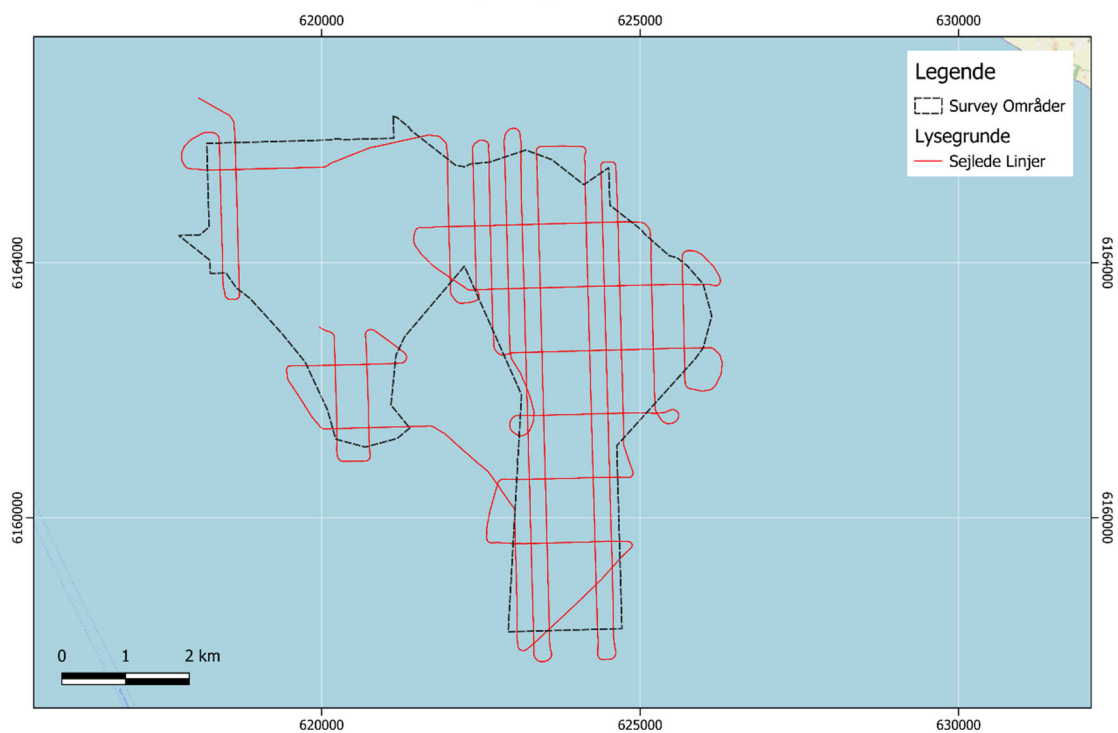
Mosedede



Grønnerevle



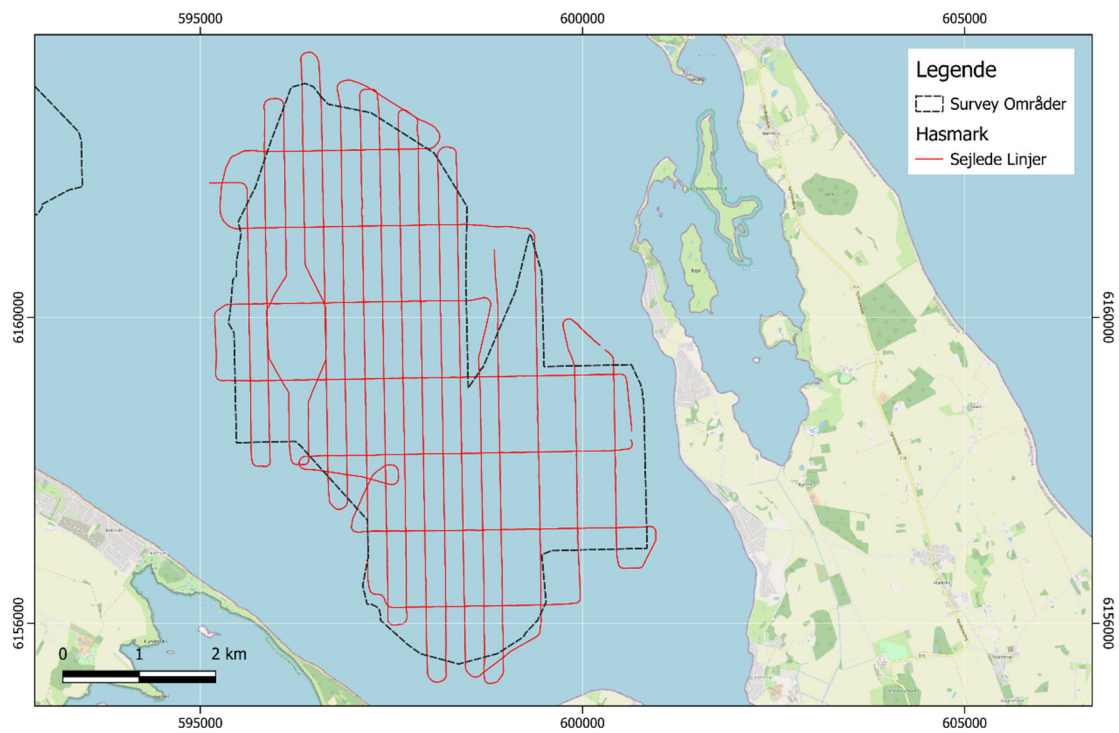
Lysegrunde



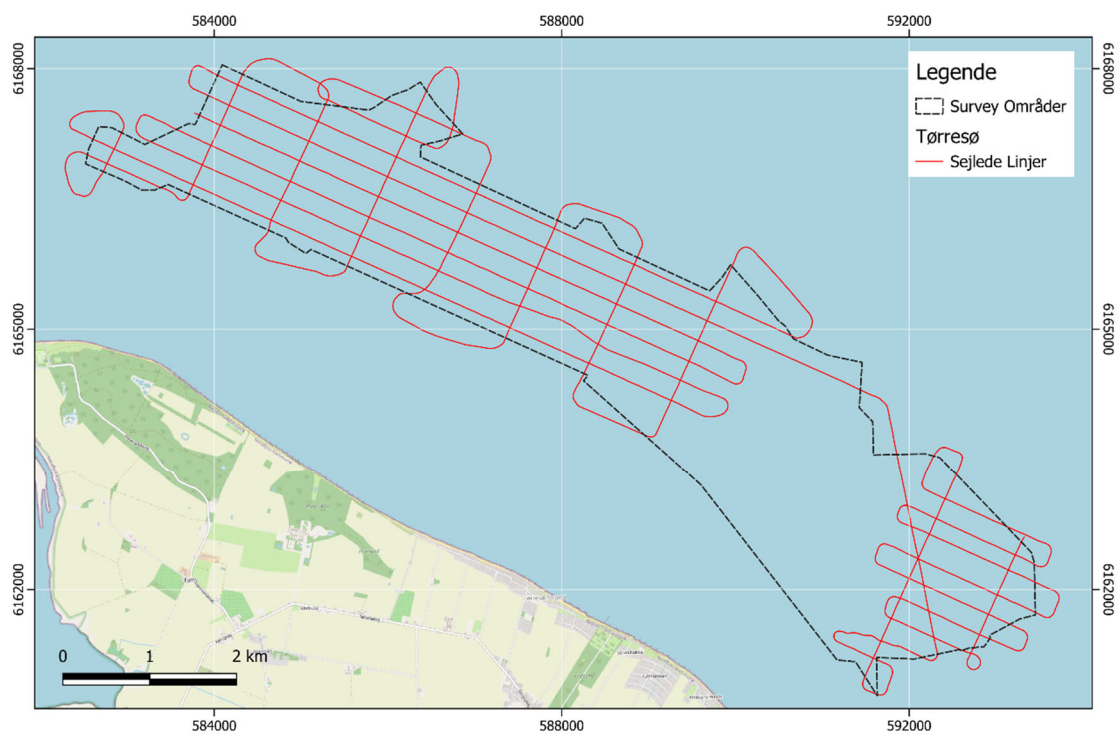
Bolsaks



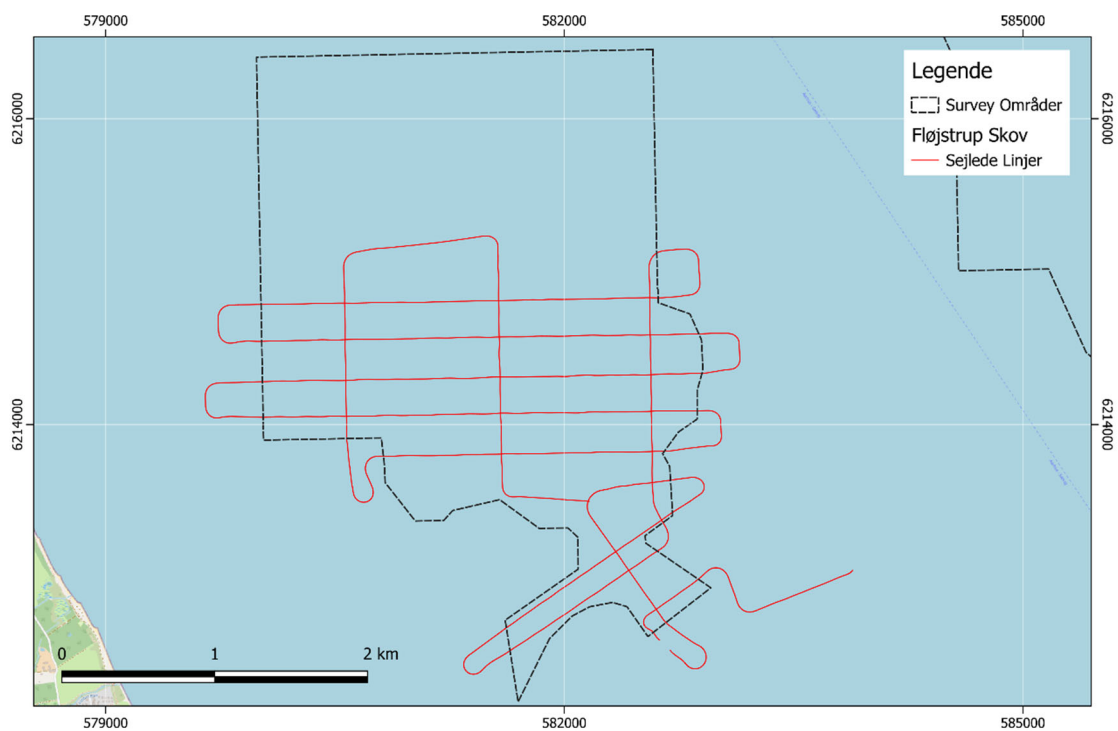
Hasmark



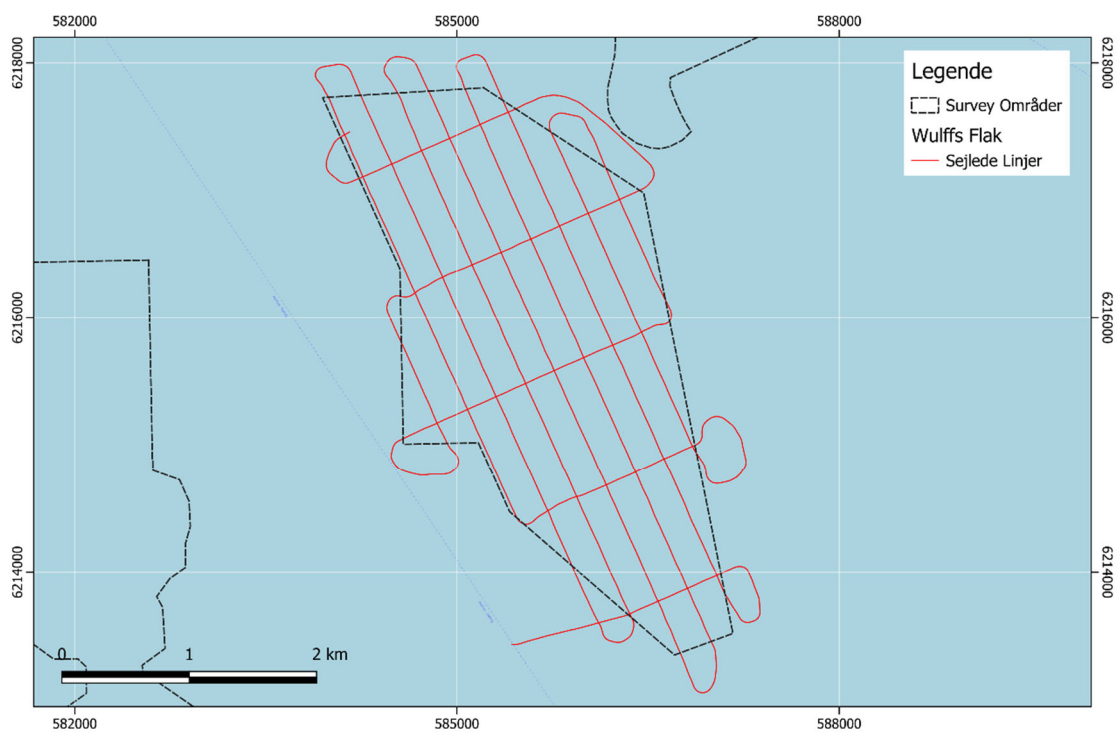
Tørresø



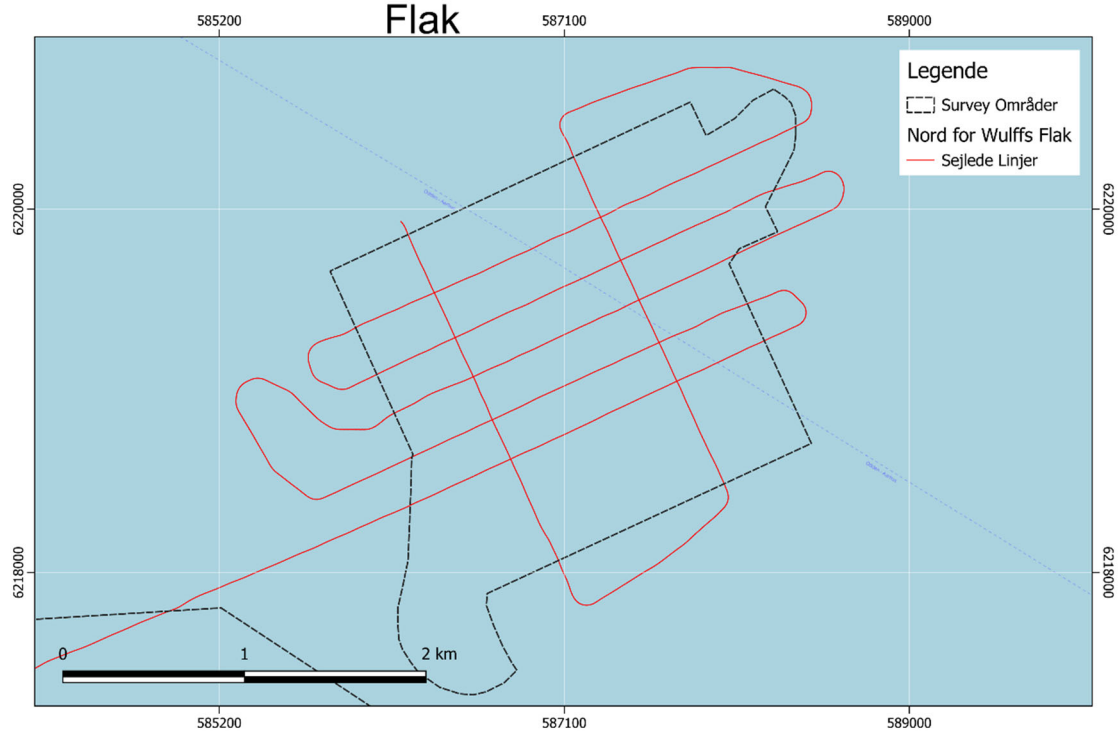
Fløjstrup Skov



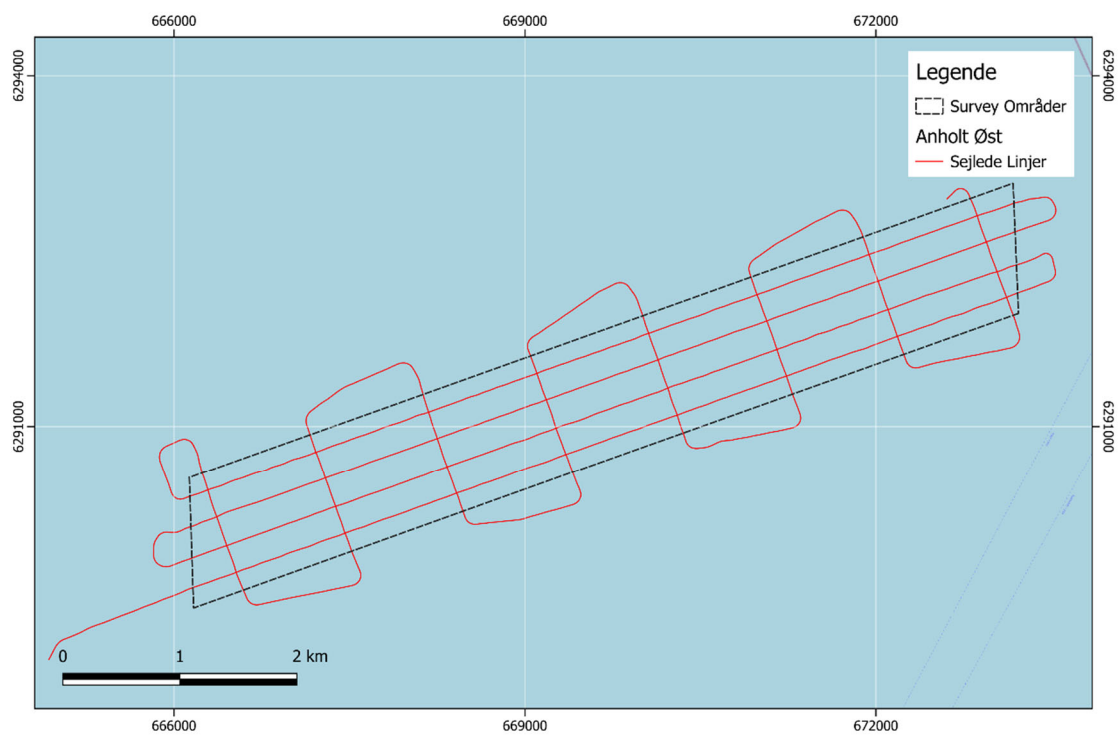
Wulffs Flak



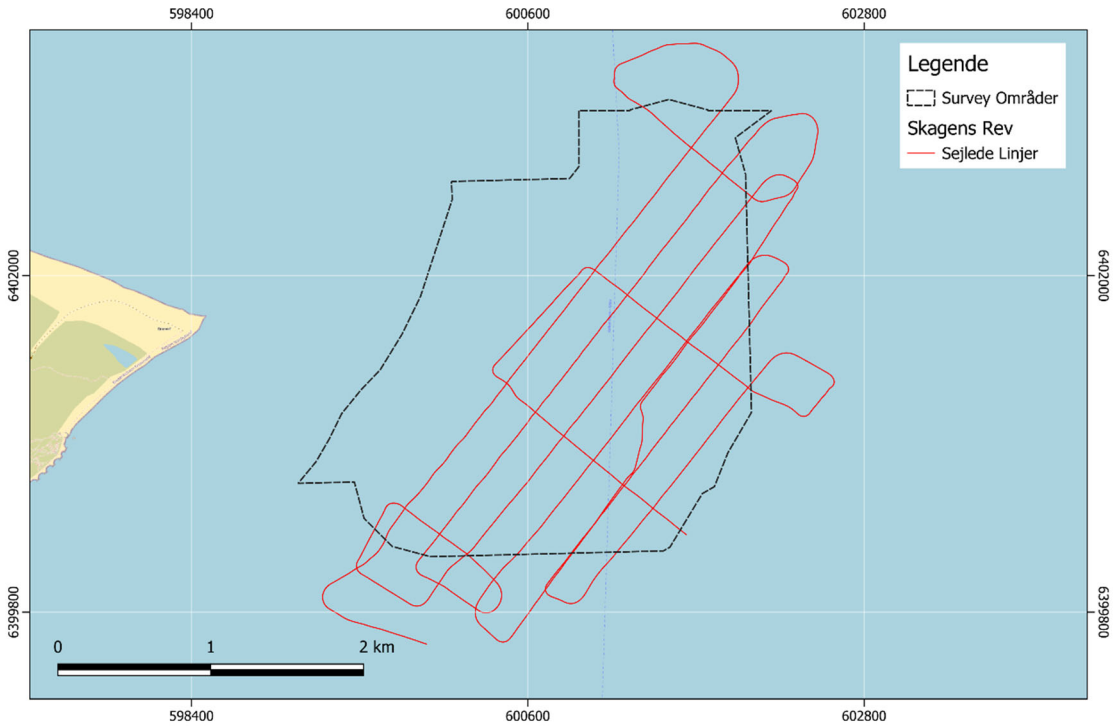
Nord for Wulffs Flak



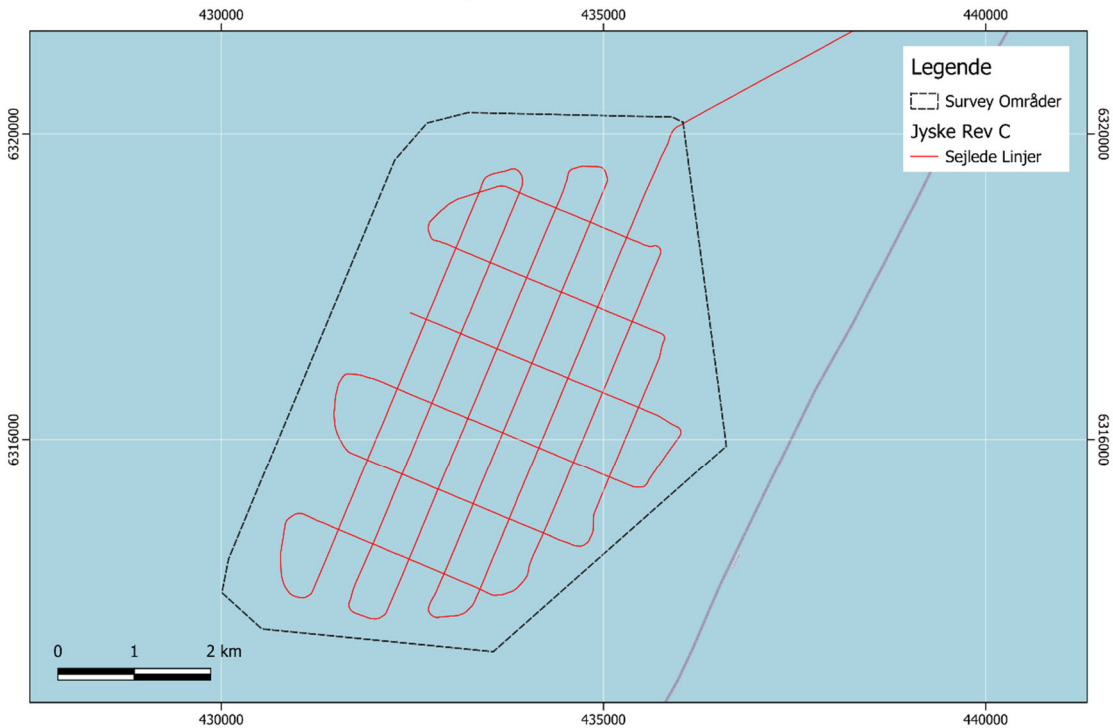
Anholt Øst



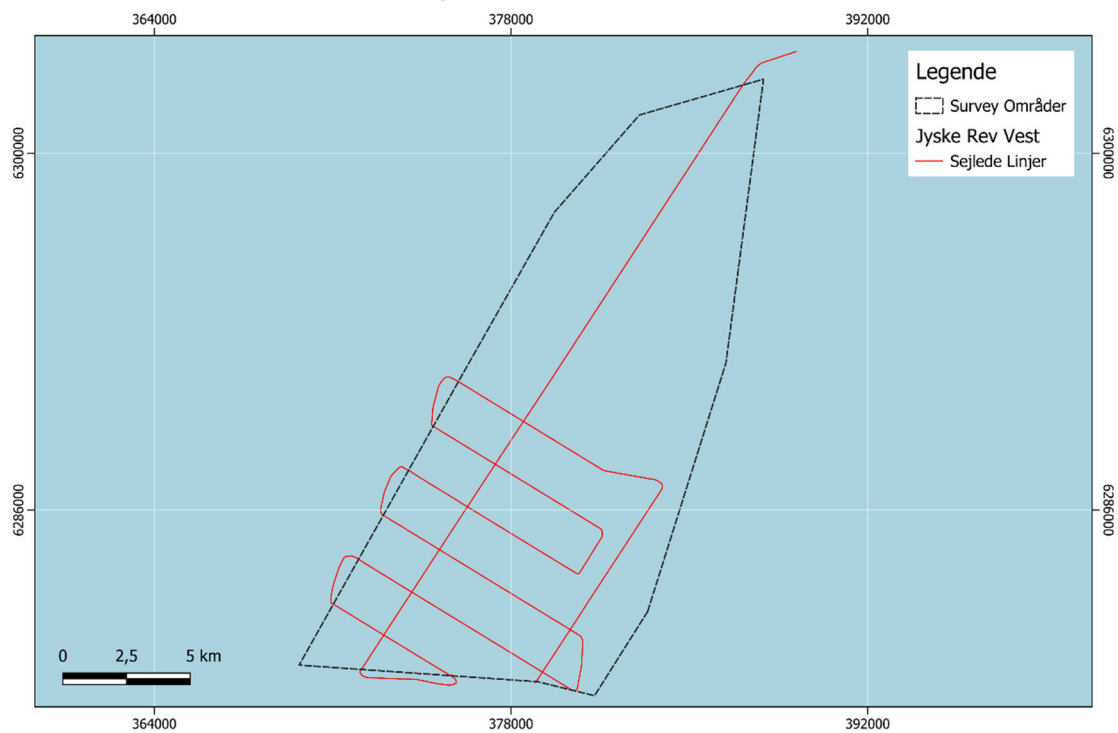
Skagens Rev



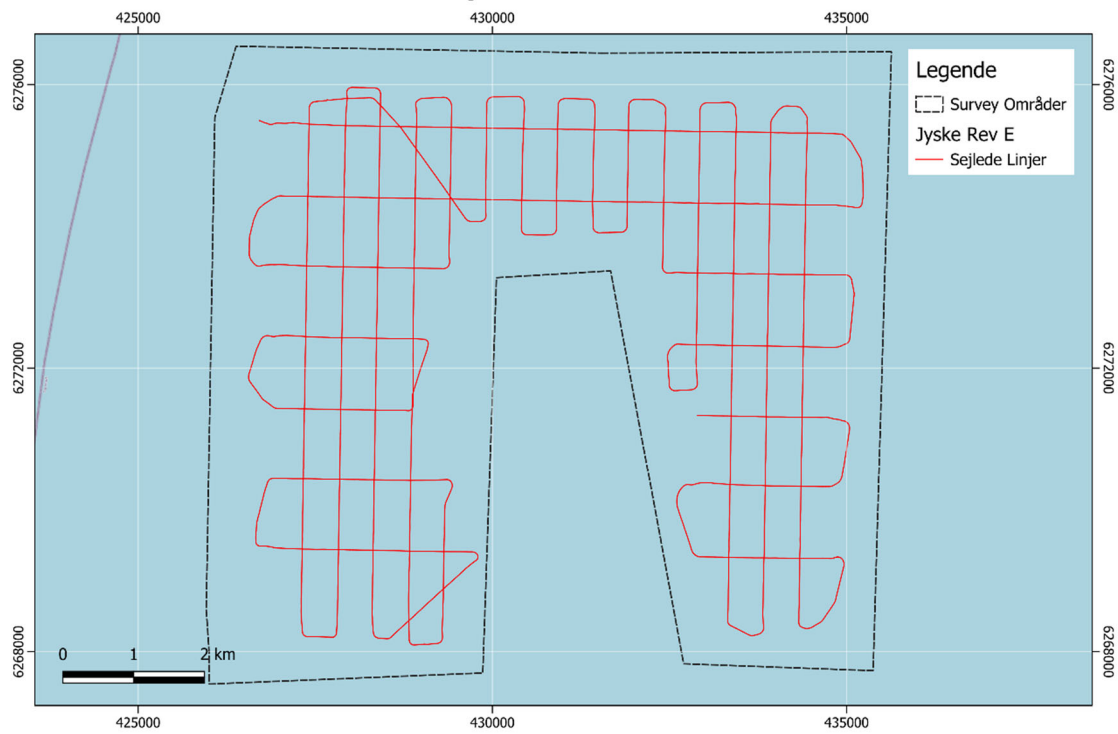
Jyske Rev C



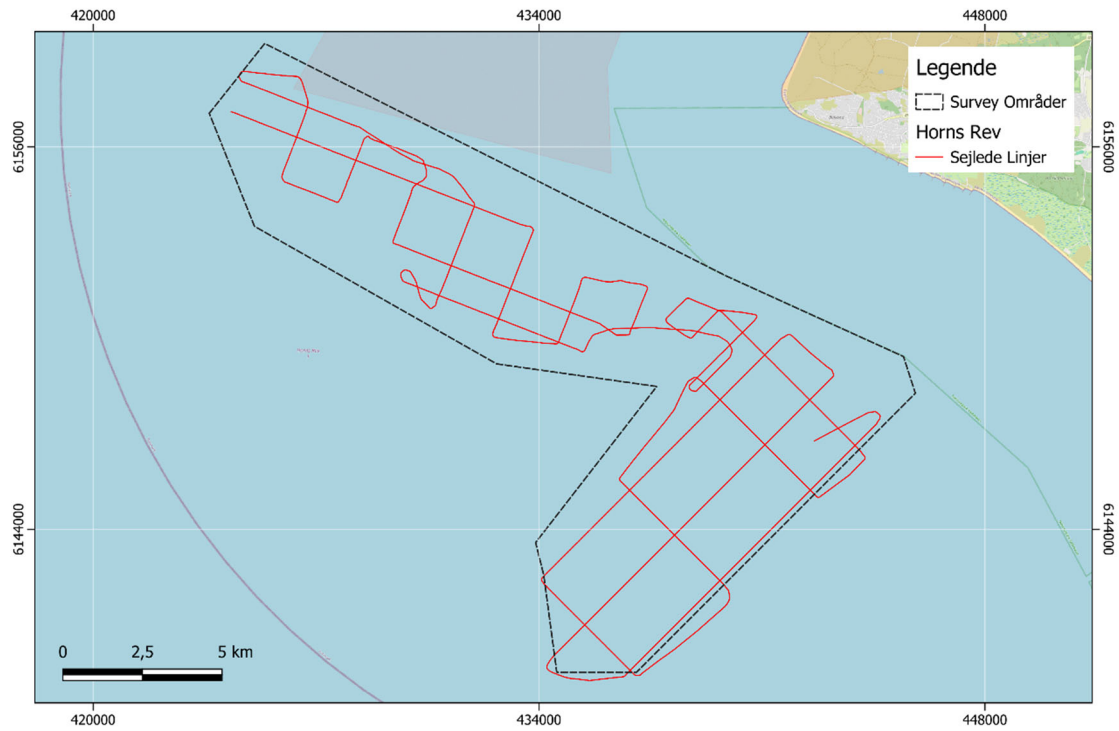
Jyske Rev Vest



Jyske Rev E



Horns Rev



Vestkysten

