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Short Cruise Report

FS Maria S. Merian, MSM63

29.04. 2017 – 23.05.2017

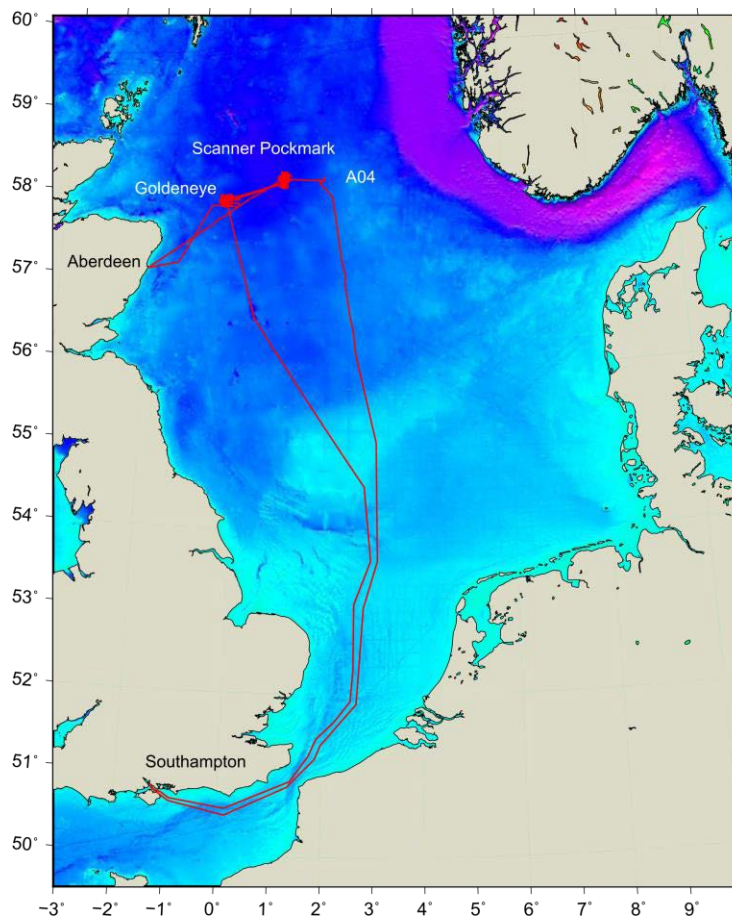
Leg 1 Southampton - Aberdeen

Chief Scientist: Prof. Christian Berndt

Leg 2 Aberdeen - Southampton

Chief Scientist: Dr. Judith Elger

Captain: Björn Maaß



Objectives

Hydraulic permeability in sedimentary basins varies by several orders of magnitude. As it is difficult to determine and therefore largely unknown this poses serious problems for the simulation of fluid migration in sedimentary basins. During the FP7 ECO2 project we could show that a focused fluid pathways known as pipe structures can have significant impact on fluid migration and that it is necessary to constrain their hydraulic permeability and how it varies over time.

Within work package 3 of the Horizon 2020 project STEMM-CCS we are attempting to determine the permeability of pipe structures in a complex approach reaching from onshore field studies through marine geophysical data acquisition and scientific drilling to numerical modeling. The cruise MSM 63 PERMO was aimed at providing the necessary geophysical data as well as sediment cores and downhole logging data. The objective was to provide data that helps testing the following hypotheses: 1) Seismic pipe structures have significantly higher hydraulic permeability compared to the surrounding country rock leading to focused fluid migration; 2) Seismic pipe structures remain open pathways for a long geological time after their formation; and 3) Seismic pipe structures are characterized by continuous fluid migration.

Quantification of focused fluid migration through the sedimentary succession is fundamental for a large number of research themes ranging from the assessment of geological climate controls and slope stability to verify applied question such as where hydrocarbons accumulate and how safe CO₂ storage is [Berndt, 2005]. Within the ECO2 project we have attempted to assess the integrity of the overburden, but the combination of field studies and numerical simulation has shown clearly that it is not possible to describe fluid migration in a sedimentary basin quantitatively without understanding the role of seismic chimney structures.

The main scientific goals of this project were

- a) firstly to constrain the bulk permeability of an existing chimney structure, i.e. to assess the amount of aqueous and gassy fluids that may move through these structures over time.
- b) Secondly, we tried to constrain the temporal evolution of fluid migration through pipe structures over time, i.e. do they transport fluids continuously or episodically and if episodically is it likely that CO₂ storage may initiate a new episode of migration.
- c) Thirdly, we set out to test the hypothesis that chimney structures in seismic data represent indeed fault networks created by hydro-fracturing and not bulk mobilization of sediments as a diapir or subsidence of sediments in the style of a breccia pipe.

These goals will be met within the STEMM-CCS project by combining geophysical observations from two scientific cruises by GEOMAR and the National Oceanography Centre, Southampton with field samples from the Colorado Plateau and numerical simulations. The cruise proposed here will provide the required borehole samples from inside and outside the chimney structures and the necessary geophysical data with different frequency content from high-resolution sub bottom profiler data to P-Cable high-resolution data to upscale the borehole observations through a nested approach to the existing high-quality exploration-type seismic data. This will provide the required data set to achieve the three objectives above. These data will be augmented by ocean bottom seismometer data and controlled-source electro-magnetic data, which we will collect during the cruise and which will allow us determining if there is continuously linked fracture permeability inside the chimney structures from directional differences in the seismic velocities and the electric resistivity, respectively.

Narrative

Because of the complex logistical requirements, i.e. not all the geophysical and drilling equipment could fit on Maria S. Merian at the same time, the cruise was split into two legs. The first leg commenced in Southampton on 29.04.2017 and ended in Aberdeen on 13.05.2017. The second leg started delayed in Aberdeen on 18.05.2017 and ended in Southampton on 25.05.2017. In the beginning of the first leg we investigated two potential targets to decide which one is most suitable as a study area. After having discarded a site in the Norwegian sector of the North Sea close to the Sleipner oil and gas field, we focused on the Scanner pockmark in the U.K. sector further west. There we collected a comprehensive geophysical data set consisting of multi-beam bathymetry data that shows the different types of fluid escape features including pockmarks that are fuelled from several hundred meters of depth and pockmarks that are linked to the Witchground Formation in the shallow subsurface. Newly acquired Parasound sub-bottom profiler data and 2D seismic data reveal the geometries of the associated fluid conduits and the distribution of free gas in the glacial sediments. In addition we have collected ocean bottom seismometer data to conduct a three-dimensional tomographic analysis of the conduits to investigate if these are caused by fracturing or if their seismic signature is caused by free gas that may be trapped in the conduits. Finally, a comprehensive controlled source electromagnetic (CSEM) data was collected to determine if the conduits remain open after formation. Unfortunately, the planned high-resolution 3D seismic data could not be collected because of a lack of time after a couple of days were lost due to bad weather.

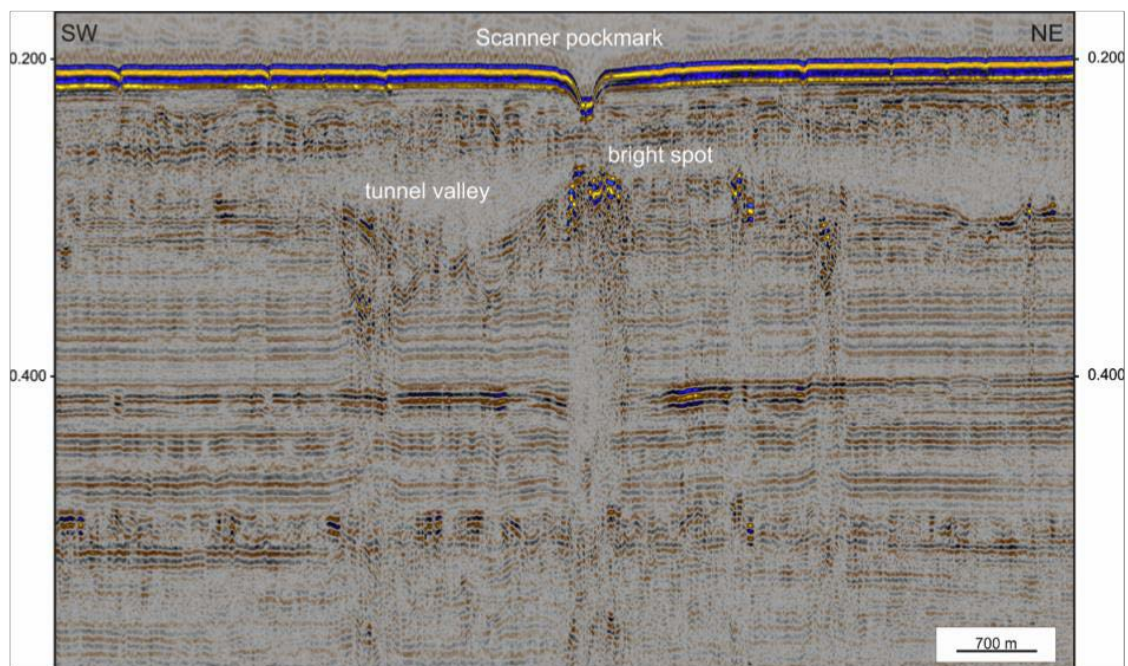


Figure 1: High-resolution 2D seismic line crossing the Scanner Pockmark in the UK sector of the Norwegian Sea. Note, free gas trapped at the glacial unconformity and the conduit that rises from approximately 300 m below sea floor to the Scanner pockmark.

The second leg was dedicated to surveying the second study site of the STMM-CSS project at the Goldeneye License. In preparation for an Alkor cruise upcoming in October we collected a bathymetric grid and many Parasound sub-bottom profiler lines in order to determine a suitable target for the planned CO₂ release experiment. We also collected numerous water samples during CTD casts to determine the origin of gas seeping from the sea floor. The planned drilling operations had to be canceled because of technical problems with the vessel. We intend to conduct these in fall 2018 instead.

Preliminary results show a deep-seated fluid migration pathway below the Scanner pockmark that rises from at least 300 m below the sea floor. During the cruise we observed continuously a gas flare in the water column suggesting that the pathway is continuously open. The multibeam bathymetry and Parasound data show that there are at least five episodes of pockmark formation. Four of these are associated with the glaciomarine or glaciolacustrine Witchground Formation whereas only the biggest pockmarks such as Scanner Pockmark can be linked to the deep subsurface. Evaluation of ocean bottom seismometer data and controlled source electromagnetic data is still ongoing.

Acknowledgements

We would like to thank captain Björn Maaß, his officers and crew of RV Maria S. Merian for their professional support of our science programme and for very pleasant company on board. We also thank our technical team Gero Wetzels, Florian Beeck, Tan Yee Yuan, Laurence North, Ben Pitcairn, Martin Week and Dean Wilson for making this cruise a success.

The project STEMM-CCSS was funded by the European Commission (grant agreement 654462) and the Deutsche Forschungsgemeinschaft (project PERMO). Additional funding came from the institutions involved. We gratefully appreciate all these contributions.

Scientific Party

Leg 1

1.	Prof. Dr. Christian Berndt	Chief scientist	GEOMAR
2.	Dr. Jens Karstens	Marine Geology	GEOMAR
3.	Dr. Benedict Reinardy	Marine Geology	U Stockholm
4.	Sina Muff	P-Cable	GEOMAR
5.	Bettina Schramm	OBS	GEOMAR
6.	Christoph Böttner	Hydroacoustics	GEOMAR
7.	Dr. Romina Gehrman	CSEM	Soton
8.	Dr. Gaye Bayrakci	CSEM	Soton
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15.	Tan Yee Yuan	CSEM engineer	Soton
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20.	Gesa Franz	Watch keeper	GEOMAR
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Leg 2

1.	Dr. Judith Elger	Chief scientist	GEOMAR
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OBIC	Ocean-Bottom Instrumentation Consortium, Department of Earth Sciences, Durham University, Science Labs, Durham DH1 3LE, U.K.
U Stockholm	Stockholms Universitet, Institutionen för Naturgeografi, Stockholm, Sweden
U Leicester	University of Leicester, Department of Geology, University Road, Leicester, LE1 7RH, U.K.

Stationsliste MSM63-1

Activity - Device Operation	Timestamp	Device	Action	Latitude	Longitude	Depth (m)	Speed (kn)	Course	Latitude (deg)	Longitude (deg)	Wind Dir	Wind Velocity	Winch	Rope Length (m)	Comment
MSM63_0_Underway-1	01.05.2017 04:50	ADCP	information	55 °05,388' N	003° 05,277' E			350.7	55,089,802	3,087,943	103	32.00		0.0	
MSM63_0_Underway-3	01.05.2017 04:50	Multibeam Echosounder	information	55 °05,404' N	003° 05,270' E			348.6	55,090,073	3,087,840	103				
MSM63_0_Underway-2	01.05.2017 04:50	Weatherstation	information	55 °05,497' N	003° 05,234' E			344.9	55,091,614	3,087,230	103	31.40		0.0	
MSM63_0_Underway-4	01.05.2017 09:00	Parasound	information	55 °53,655' N	002° 45,558' E	80.8	12.0	348.5	55,894,250	2,759,293	109	29.20		0.0	
MSM63_3-1	02.05.2017 00:45	Parasound	profile start	58 °14,798' N	001° 49,056' E	88.0		33.6	58,246,639	1,817,595	122	20.60		0.0	v=7kn, Kurs 028°
MSM63_3-1	02.05.2017 01:33	Parasound	alter course	58 °19,685' N	001° 53,956' E	83.1		50.8	58,328,080	1,899,271	120	21.00		0.0	Kurs: 187°
MSM63_3-1	02.05.2017 02:03	Parasound	alter course	58 °17,121' N	001° 53,215' E	85.2		194.0	58,285,356	1,886,913	108	20.70		0.0	Kurs: 247°
MSM63_3-1	02.05.2017 02:29	Parasound	alter course	58 °15,906' N	001° 48,118' E	91.0	7.0	245.4	58,265,102	1,801,969	115	17.80		0.0	Kurs: 323°
MSM63_3-1	02.05.2017 02:44	Parasound	alter course	58 °17,180' N	001° 45,883' E	100.0	7.0	328.9	58,286,333	1,764,716	113	15.80		0.0	Kurs: 104°
MSM63_3-1	02.05.2017 03:25	Parasound	alter course	58 °16,335' N	001° 51,984' E	86.3		104.1	58,272,247	1,866,393	108	15.80		0.0	Kurs: 319°
MSM63_3-1	02.05.2017 03:36	Parasound	profile end	58 °16,446' N	001° 50,859' E	88.0		318.9	58,274,097	1,847,651	104	14.30		0.0	
MSM63_4-1	02.05.2017 07:21	Magnetotellurics	in the water	58 °17,553' N	000° 59,199' E	152.3	0.0	182.8	58,292,545	0.986649	95	15.60	AW	-1.0	
MSM63_4-1	02.05.2017 07:44	Magnetotellurics	information	58 °17,552' N	000° 59,197' E	152.8	0.1	231.4	58,292,534	0.986613	97	15.30	AW	140.0	mit Posidonia ausgelöst
MSM63_4-1	02.05.2017 08:07	Magnetotellurics	information	58 °17,551' N	000° 59,198' E	151.5	0.1	66.0	58,292,515	0.986637	101	17.30	AW	-12.0	Gerade hat sich erst an der Oberfläche vom Draht gelöst. Releaser an Deck
MSM63_4-2	02.05.2017 08:41	Magnetotellurics	in the water	58 °17,339' N	000° 58,886' E	153.2	0.0	321.8	58,288,978	0.981436	98	16.70	AW	-3.0	
MSM63_4-2	02.05.2017 09:03	Magnetotellurics	information	58 °17,335' N	000° 58,895' E	152.8	0.1	324.9	58,288,921	0.981579	102	15.60	AW	136.0	mit Posidonia ausgelöst
MSM63_4-2	02.05.2017 09:09	Magnetotellurics	information	58 °17,336' N	000° 58,893' E	152.6	0.1	333.4	58,288,926	0.981554	101	17.50	AW	-12.0	Releaser an Deck

MSM63_4-3	02.05.2017 09:40	Magnetotellurics	in the water	58 °16,961' N	000° 58,978' E	152.5	0.0		58,282,685	0.982959	98	15.20	AW	-2.0	
MSM63_4-3	02.05.2017 10:00	Magnetotellurics	information	58 °16,956' N	000° 58,988' E	152.5	0.2	275.3	58,282,601	0.983141	101		AW	140.0	mit Posidonia ausgelöst
MSM63_4-3	02.05.2017 10:08	Magnetotellurics	information	58 °16,958' N	000° 58,990' E	152.1	0.1		58,282,628	0.983175	103	17.00	AW	-13.0	Releaser an Deck
MSM63_4-4	02.05.2017 10:39	Magnetotellurics	in the water	58 °17,126' N	000° 58,578' E	154.9	0.1	203.5	58,285,432	0.976300	105	17.20	AW	7.0	
MSM63_4-4	02.05.2017 10:56	Magnetotellurics	information	58 °17,119' N	000° 58,582' E	155.1	0.1	228.2	58,285,318	0.976374	107	19.50	AW	140.0	mit Posidonia ausgelöst
MSM63_4-4	02.05.2017 11:05	Magnetotellurics	information	58 °17,116' N	000° 58,586' E	155.9	0.1	235.3	58,285,260	0.976426	104	19.80		0.0	Releaser an Deck
MSM63_4-5	02.05.2017 11:49	Magnetotellurics	in the water	58 °17,290' N	000° 58,170' E	153.7	0.0		58,288,167	0.969493	103	17.00	AW	4.0	
MSM63_4-5	02.05.2017 12:07	Magnetotellurics	information	58 °17,285' N	000° 58,179' E	154.6	0.0	314.7	58,288,089	0.969645	106	17.00	AW	140.0	mit Posidonia ausgelöst
MSM63_4-5	02.05.2017 12:14	Magnetotellurics	information	58 °17,286' N	000° 58,179' E	154.0	0.1	295.5	58,288,092	0.969643	105	15.00	AW	-12.0	Releaser an Deck
MSM63_4-6	02.05.2017 12:35	Magnetotellurics	in the water	58 °17,241' N	000° 57,450' E	153.9	0.1	51.5	58,287,344	0.957505	107	15.40	AW	1.0	
MSM63_4-6	02.05.2017 12:54	Magnetotellurics	information	58 °17,238' N	000° 57,464' E	154.1	0.0	357.6	58,287,305	0.957733	99		AW	140.0	mit Posidonia ausgelöst
MSM63_4-6	02.05.2017 13:02	Magnetotellurics	information	58 °17,239' N	000° 57,463' E	153.5	0.1	314.8	58,287,315	0.957714	99	15.60	AW	-11.0	Releaser an Deck
MSM63_5-1	02.05.2017 13:48	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,381' N	000° 57,480' E	153.8	0.1		58,273,019	0.958008	106	15.20		0.0	
MSM63_5-2	02.05.2017 14:08	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,805' N	000° 58,105' E	157.2	0.1		58,280,081	0.968416	104	15.60		0.0	
MSM63_5-3	02.05.2017 14:18	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,868' N	000° 58,197' E	167.4	0.1	142.5	58,281,130	0.969943	107	16.90		0.0	
MSM63_5-4	02.05.2017 14:26	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,911' N	000° 58,261' E	164.9	0.1	153.5	58,281,848	0.971020	104	15.80		0.0	
MSM63_5-5	02.05.2017 14:35	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,976' N	000° 58,353' E	157.1	0.1	92.8	58,282,928	0.972558	105			0.0	
MSM63_5-6	02.05.2017 14:47	Seismic Ocean Bottom Receiver	OBS deployed	58 °17,040' N	000° 58,447' E	158.1	0.0	306.7	58,284,007	0.974122	105	14.00		0.0	
MSM63_5-7	02.05.2017 15:04	Seismic Ocean Bottom Receiver	OBS deployed	58 °17,446' N	000° 59,044' E	152.7	0.0	225.1	58,290,761	0.984069	98			0.0	
MSM63_5-8	02.05.2017 15:19	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,997' N	000° 58,570' E	154.9	0.0	347.2	58,283,290	0.976161	96			0.0	

MSM63_5-9	02.05.2017 15:33	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,699' N	000° 58,763' E	153.3	0.1	110.9	58,278,312	0.979376	99		0.0		
MSM63_5-10	02.05.2017 16:01	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,861' N	000° 58,338' E	160.4	0.1	285.6	58,281,020	0.972297	89		0.0		
MSM63_5-11	02.05.2017 16:09	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,885' N	000° 58,278' E	170.1	0.0	100.9	58,281,418	0.971302	94	13.00	0.0		
MSM63_5-12	02.05.2017 16:58	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,919' N	000° 58,195' E	159.8	0.1	301.6	58,281,991	0.969915	88		0.0		
MSM63_5-13	02.05.2017 17:54	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,943' N	000° 58,136' E	155.4	0.0	116.2	58,282,389	0.968933	75		0.0		
MSM63_5-14	02.05.2017 18:24	Seismic Ocean Bottom Receiver	OBS deployed	58 °17,108' N	000° 57,731' E	153.8	0.1	203.1	58,285,141	0.962182	71		0.0		
MSM63_5-15	02.05.2017 18:38	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,900' N	000° 58,054' E	154.9	0.3	42.8	58,281,669	0.967573	68		0.0		
MSM63_5-16	02.05.2017 18:48	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,807' N	000° 58,283' E	157.3	0.1	126.1	58,280,110	0.971382	74	11.00	0.0		
MSM63_5-17	02.05.2017 19:00	Seismic Ocean Bottom Receiver	OBS deployed	58 °16,917' N	000° 58,440' E	158.5	0.1	75.7	58,281,953	0.973994	80		0.0		
MSM63_5-18	02.05.2017 19:19	Seismic Ocean Bottom Receiver	OBS deployed	58 °17,010' N	000° 58,206' E	155.4	0.0	145.0	58,283,498	0.970103	83		0.0		
MSM63_4-7	02.05.2017 21:06	Magnetotellurics	in the water	58 °17,078' N	000° 57,852' E	153.6	0.1	292.3	58,284,631	0.964195	54	AW	0.0		
MSM63_4-7	02.05.2017 21:25	Magnetotellurics	informa- tion	58 °17,075' N	000° 57,863' E	153.6	0.0	155.9	58,284,575	0.964387	49	13.00	AW	139.0	mit Posidonia ausgelöst
MSM63_4-7	02.05.2017 21:33	Magnetotellurics	informa- tion	58 °17,068' N	000° 57,868' E	153.0	0.2	159.3	58,284,471	0.964468	49	13.40		0.0	Releaser an Deck
MSM63_4-8	02.05.2017 21:48	Magnetotellurics	in the water	58 °16,746' N	000° 58,669' E	153.6	0.0	307.3	58,279,096	0.977811	52	13.60	AW	-3.0	
MSM63_4-8	02.05.2017 22:04	Magnetotellurics	informa- tion	58 °16,743' N	000° 58,672' E	153.0	0.1	176.2	58,279,054	0.977864	51	13.40	AW	140.0	mit Posidonia ausgelöst
MSM63_4-8	02.05.2017 22:11	Magnetotellurics	informa- tion	58 °16,742' N	000° 58,674' E	153.7	0.4	177.1	58,279,030	0.977896	47	13.20	AW	-6.0	Releaser an Deck
MSM63_4-9	02.05.2017 22:44	Magnetotellurics	informa- tion	58 °16,585' N	000° 59,061' E	152.7	0.0	102.4	58,276,412	0.984355	45	11.00	AW	2.0	
MSM63_4-9	02.05.2017 23:04	Magnetotellurics	informa- tion	58 °16,583' N	000° 59,070' E	152.7	0.1	124.7	58,276,387	0.984508	40	11.00	AW	140.0	mit Posidonia ausgelöst
MSM63_4-9	02.05.2017 23:12	Magnetotellurics	informa- tion	58 °16,582' N	000° 59,071' E	152.5	0.1	273.9	58,276,372	0.984517	43		AW	-11.0	Releaser an Deck

MSM63_4-10	02.05.2017 23:28	Magnetotellurics	in the water	58 °16,536' N	000° 58,346' E	154.6	0.0	287.8	58,275,607	0.972428	42		AW	-2.0	
MSM63_4-10	02.05.2017 23:46	Magnetotellurics	information	58 °16,533' N	000° 58,352' E	154.2	0.1	309.6	58,275,551	0.972534	49	12.00	AW	138.0	mit Posidonia ausgelöst
MSM63_4-10	02.05.2017 23:55	Magnetotellurics	information	58 °16,533' N	000° 58,351' E	153.8	0.2	132.8	58,275,548	0.972520	44		AW	-12.0	Releaser an Deck
MSM63_4-11	03.05.2017 00:18	Magnetotellurics	in the water	58 °16,702' N	000° 57,937' E	154.3	0.1	174.4	58,278,361	0.965622	44		AW	8.0	
MSM63_4-11	03.05.2017 00:36	Magnetotellurics	information	58 °16,699' N	000° 57,946' E	154.3	0.0	122.2	58,278,320	0.965766	38		AW	140.0	mit Posidonia ausgelöst
MSM63_4-11	03.05.2017 00:43	Magnetotellurics	information	58 °16,696' N	000° 57,954' E	155.0	0.6	120.4	58,278,260	0.965907	38	13.20	AW	-5.0	Releaser an Deck
MSM63_4-12	03.05.2017 01:00	Magnetotellurics	in the water	58 °16,864' N	000° 57,540' E	154.1	0.5	297.2	58,281,074	0.958995	43		AW	17.0	
MSM63_4-12	03.05.2017 01:17	Magnetotellurics	information	58 °16,864' N	000° 57,542' E	153.5	0.0	126.8	58,281,063	0.959040	44		AW	140.0	mit Posidonia ausgelöst
MSM63_4-12	03.05.2017 01:24	Magnetotellurics	information	58 °16,860' N	000° 57,551' E	153.3	0.6	147.4	58,281,001	0.959180	41	13.50	AW	-4.0	Releaser an Deck
MSM63_4-13	03.05.2017 01:45	Magnetotellurics	in the water	58 °16,488' N	000° 57,629' E	153.4	0.1	143.5	58,274,794	0.960486	42	13.40	AW	-2.0	
MSM63_4-13	03.05.2017 02:07	Magnetotellurics	information	58 °16,486' N	000° 57,631' E	154.6	0.0	219.7	58,274,767	0.960522	42		AW	140.0	mit Posidonia ausgelöst
MSM63_4-13	03.05.2017 02:14	Magnetotellurics	information	58 °16,487' N	000° 57,628' E	154.3	0.0	148.8	58,274,785	0.960464	40		AW	-10.0	Releaser an Deck
MSM63_4-14	03.05.2017 02:27	Magnetotellurics	in the water	58 °16,274' N	000° 57,316' E	154.3	0.1	202.9	58,271,237	0.955270	35		AW	2.0	
MSM63_4-14	03.05.2017 02:47	Magnetotellurics	information	58 °16,275' N	000° 57,322' E	154.5	0.1	282.2	58,271,250	0.955365	28		AW	140.0	mit Posidonia ausgelöst
MSM63_4-14	03.05.2017 02:54	Magnetotellurics	information	58 °16,274' N	000° 57,325' E	155.1	0.4	129.3	58,271,238	0.955414	28		AW	-7.0	Releaser an Deck
MSM63_6-1	03.05.2017 03:53	Controlled Source Electromagnetics	in the water	58 °16,923' N	000° 55,538' E	155.0		48.6	58,282,044	0.925633	28	13.30	F2S2	20.0	Vulcan 1
MSM63_6-1	03.05.2017 04:02	Controlled Source Electromagnetics	in the water	58 °17,003' N	000° 55,801' E	153.9	1.0	61.2	58,283,381	0.930020	28		F2S2	20.0	Vulcan 2
MSM63_6-1	03.05.2017 04:17	Controlled Source Electromagnetics	in the water	58 °17,123' N	000° 56,196' E	154.8	1.0	44.3	58,285,376	0.936602	29	13.30	F2S2	20.0	Pressure Sensor + 1 Benthos
MSM63_6-1	03.05.2017 04:19	Controlled Source Electromagnetics	in the water	58 °17,138' N	000° 56,246' E	154.8	1.0	55.4	58,285,633	0.937439	29	13.40	F2S2	20.0	Antenna + 5 Benthos
MSM63_6-1	03.05.2017 04:54	Controlled Source Electromagnetics	in the water	58 °17,434' N	000° 57,222' E	153.4	0.9	79.8	58,290,573	0.953702	24	15.40	F2S2	10.0	
MSM63_6-1	03.05.2017 05:42	Controlled Source Electromagnetics	on deck	58 °17,847' N	000° 58,584' E	153.9		63.3	58,297,450	0.976398	22	18.50	F2S2	-13.0	techn. Probleme
MSM63_6-1	03.05.2017 05:45	Controlled Source Electromagnetics	in the water	58 °17,868' N	000° 58,651' E	153.8	1.0	60.4	58,297,794	0.977510	20	17.60	F2S2	-1.0	
MSM63_6-1	03.05.2017 07:22	Controlled Source Electromagnetics	profile start	58 °18,033' N	001° 00,551' E	150.5	1.0	231.3	58,300,555	1,009,184	23	16.20	F2S2	115.0	v=1kn, Kurs 218°
MSM63_6-1	03.05.2017 10:36	Controlled Source Electromagnetics	profile end	58 °15,467' N	000° 56,786' E	153.9	1.0	218.3	58,257,784	0.946441	0	0.00	F2S2	121.0	

MSM63_6-1	03.05.2017 10:37	Controlled Source Electromagnetics	alter course	58 °15,454' N	000° 56,767' E	153.8	1.0	226.6	58,257,564	0.946111	0	0.00	F2S2	121.0	Kurs 038°
MSM63_6-1	03.05.2017 11:35	Controlled Source Electromagnetics	profile start	58 °15,226' N	000° 55,788' E	154.0	1.0	40.3	58,253,772	0.929801	0	0.00	F2S2	60.0	
MSM63_6-1	03.05.2017 15:53	Controlled Source Electromagnetics	profile end	58 °18,615' N	001° 00,757' E	150.9	1.0		58,310,247	1,012,620	25		F2S2	60.0	
MSM63_6-1	03.05.2017 15:54	Controlled Source Electromagnetics	alter course	58 °18,631' N	001° 00,770' E	150.9			58,310,511	1,012,837	32		F2S2	60.0	Kurs 218°
MSM63_6-1	03.05.2017 16:09	Controlled Source Electromagnetics	profile start	58 °18,763' N	001° 00,331' E	151.1		219.9	58,312,717	1,005,514	39		F2S2	60.0	
MSM63_6-1	03.05.2017 19:55	Controlled Source Electromagnetics	profile end	58 °15,787' N	000° 55,964' E	154.8	0.9	216.5	58,263,115	0.932733	33		F2S2	60.0	
MSM63_6-1	03.05.2017 19:55	Controlled Source Electromagnetics	alter course	58 °15,782' N	000° 55,955' E	154.8	0.9	220.1	58,263,034	0.932590	33		F2S2	60.0	Kurs 353°
MSM63_6-1	03.05.2017 21:03	Controlled Source Electromagnetics	profile start	58 °15,276' N	000° 57,918' E	153.7	1.0	357.5	58,254,599	0.965294	36	10.00	F2S2	74.0	
MSM63_6-1	04.05.2017 00:16	Controlled Source Electromagnetics	profile end	58 °18,473' N	000° 57,138' E	152.9			58,307,887	0.952302	51		F2S2	60.0	
MSM63_6-1	04.05.2017 00:16	Controlled Source Electromagnetics	alter course	58 °18,476' N	000° 57,138' E	152.6		359.5	58,307,931	0.952301	51		F2S2	60.0	Kurs 173°
MSM63_6-1	04.05.2017 00:35	Controlled Source Electromagnetics	profile start	58 °18,510' N	000° 57,859' E	152.1	1.0	170.3	58,308,499	0.964317	35	9.00	F2S2	60.0	
MSM63_6-1	04.05.2017 03:49	Controlled Source Electromagnetics	profile end	58 °15,300' N	000° 58,642' E	153.2	1.0	171.6	58,254,996	0.977362	34	11.00	F2S2	60.0	
MSM63_6-1	04.05.2017 03:49	Controlled Source Electromagnetics	alter course	58 °15,297' N	000° 58,643' E	153.0		168.3	58,254,950	0.977382	34	11.00	F2S2	60.0	Kurs 353°
MSM63_6-1	04.05.2017 04:12	Controlled Source Electromagnetics	profile start	58 °15,357' N	000° 59,354' E	153.7		345.7	58,255,945	0.989232	60		F2S2	60.0	
MSM63_6-1	04.05.2017 07:27	Controlled Source Electromagnetics	profile end	58 °18,562' N	000° 58,576' E	152.5	1.0	348.5	58,309,368	0.976259	78		F2S2	122.0	
MSM63_6-1	04.05.2017 07:31	Controlled Source Electromagnetics	alter course	58 °18,628' N	000° 58,589' E	152.5	1.0		58,310,460	0.976476	48		F2S2	79.0	Kurs 128°
MSM63_6-1	04.05.2017 08:44	Controlled Source Electromagnetics	profile start	58 °18,107' N	000° 56,133' E	154.1	1.0	131.0	58,301,780	0.935555	36		F2S2	60.0	
MSM63_6-1	04.05.2017 11:00	Controlled Source Electromagnetics	profile end	58 °16,128' N	001° 00,995' E	151.3		137.0	58,268,808	1,016,581	54		F2S2	135.0	
MSM63_6-1	04.05.2017 11:22	Controlled Source Electromagnetics	alter course	58 °15,796' N	001° 01,815' E	149.5		133.5	58,263,265	1,030,258	55		F2S2	60.0	Kurs 308°
MSM63_6-1	04.05.2017 11:39	Controlled Source Electromagnetics	profile start	58 °15,592' N	001° 01,472' E	151.1	1.0	300.6	58,259,859	1,024,538	71		F2S2	60.0	
MSM63_6-1	04.05.2017 15:58	Controlled Source Electromagnetics	profile end	58 °18,226' N	000° 55,004' E	153.6		297.7	58,303,765	0.916731	116		F2S2	60.0	
MSM63_6-1	04.05.2017 15:58	Controlled Source Electromagnetics	alter course	58 °18,228' N	000° 54,999' E	153.0		298.0	58,303,797	0.916645	116		F2S2	60.0	Kurs 128°
MSM63_6-1	04.05.2017 16:44	Controlled Source Electromagnetics	profile start	58 °17,676' N	000° 55,520' E	152.8	1.0	143.1	58,294,599	0.925329	75		F2S2	129.0	
MSM63_6-1	04.05.2017 17:32	Controlled Source Electromagnetics	on deck	58 °17,192' N	000° 56,711' E	154.0	0.7	121.1	58,286,530	0.945178	338		F2S2	-12.0	techn. Probleme - <u>Unterbrechung</u>

														Profil	
MSM63_6-1	04.05.2017 17:41	Controlled Source Electromagnetics	in the water	58 °17,129' N	000° 56,865' E	154.5	1.0	131.9	58,285,490	0.947757	331		F2S2	-1.0	Fortsetzung Profil
MSM63_6-1	04.05.2017 20:02	Controlled Source Electromagnetics	profile end	58 °15,702' N	001° 00,370' E	152.0	0.8	116.4	58,261,693	1,006,165	4		F2S2	60.0	
MSM63_6-1	04.05.2017 20:02	Controlled Source Electromagnetics	alter course	58 °15,701' N	001° 00,372' E	151.7	0.8	145.8	58,261,680	1,006,195	4		F2S2	60.0	Kurs 263°
MSM63_6-1	04.05.2017 21:11	Controlled Source Electromagnetics	profile start	58 °16,726' N	001° 01,272' E	150.9	1.0	309.5	58,278,768	1,021,208	4		F2S2	60.0	
MSM63_6-1	05.05.2017 00:22	Controlled Source Electromagnetics	profile end	58 °16,322' N	000° 55,288' E	154.3	1.0	259.5	58,272,030	0.921468	9		F2S2	108.0	
MSM63_6-1	05.05.2017 00:23	Controlled Source Electromagnetics	alter course	58 °16,322' N	000° 55,263' E	154.2	1.0	278.7	58,272,030	0.921051	9		F2S2	104.0	Kurs 083°
MSM63_6-1	05.05.2017 00:46	Controlled Source Electromagnetics	profile start	58 °16,699' N	000° 55,188' E	154.0	1.0	65.6	58,278,315	0.919795	3	13.90	F2S2	60.0	
MSM63_6-1	05.05.2017 04:00	Controlled Source Electromagnetics	profile end	58 °17,112' N	001° 01,295' E	150.0		82.5	58,285,206	1,021,591	9	15.90	F2S2	60.0	
MSM63_6-1	05.05.2017 04:00	Controlled Source Electromagnetics	alter course	58 °17,113' N	001° 01,301' E	150.6		79.4	58,285,211	1,021,684	8	15.80	F2S2	60.0	Kurs 263°
MSM63_6-1	05.05.2017 04:24	Controlled Source Electromagnetics	profile start	58 °17,487' N	001° 01,180' E	151.5	1.0	249.3	58,291,457	1,019,663	22	14.60	F2S2	62.0	
MSM63_6-1	05.05.2017 07:35	Controlled Source Electromagnetics	profile end	58 °17,083' N	000° 55,199' E	154.6	1.0	269.4	58,284,714	0.919988	38		F2S2	105.0	
MSM63_6-1	05.05.2017 07:54	Controlled Source Electromagnetics	on deck	58 °17,043' N	000° 54,619' E	154.9	1.0	256.8	58,284,051	0.910312	42		F2S2	-13.0	DASI
MSM63_6-1	05.05.2017 08:10	Controlled Source Electromagnetics	on deck	58 °17,009' N	000° 54,118' E	154.6	0.9	251.6	58,283,486	0.901965	42			0.0	Antenna + 5 Benthos
MSM63_6-1	05.05.2017 08:10	Controlled Source Electromagnetics	on deck	58 °17,007' N	000° 54,097' E	154.8	0.8	269.9	58,283,456	0.901613	42			0.0	Pressure sensor
MSM63_6-1	05.05.2017 08:17	Controlled Source Electromagnetics	on deck	58 °17,006' N	000° 54,076' E	155.0	0.1	169.6	58,283,436	0.901259	56			0.0	Vulcan 2
MSM63_6-1	05.05.2017 08:20	Controlled Source Electromagnetics	on deck	58 °17,006' N	000° 54,076' E	154.2	0.0	73.8	58,283,429	0.901259	53			0.0	Vulcan 1
MSM63_4-14	05.05.2017 08:50	Magnetotellurics	inform ation	58 °17,011' N	000° 54,161' E	154.9		41.1	58,283,520	0.902684	57			0.0	Ausgelöst
MSM63_4-14	05.05.2017 09:18	Magnetotellurics	on deck	58 °16,181' N	000° 57,145' E	155.1	0.4	327.3	58,269,679	0.952424	46	9.00		0.0	
MSM63_4-13	05.05.2017 09:21	Magnetotellurics	inform ation	58 °16,182' N	000° 57,144' E	155.9	0.2	229.6	58,269,708	0.952399	38			0.0	Ausgelöst
MSM63_4-13	05.05.2017 09:43	Magnetotellurics	on deck	58 °16,377' N	000° 57,362' E	154.3	0.6	50.9	58,272,955	0.956039	48			0.0	
MSM63_4-11	05.05.2017 10:00	Magnetotellurics	inform ation	58 °16,754' N	000° 57,445' E	154.4	0.1	338.5	58,279,234	0.957411	45			0.0	Ausgelöst
MSM63_4-12	05.05.2017 10:20	Magnetotellurics	on deck	58 °16,577' N	000° 57,726' E	154.6	0.9	165.0	58,276,278	0.962096	63			0.0	
MSM63_4-10	05.05.2017 10:33	Magnetotellurics	inform ation	58 °16,476' N	000° 58,161' E	154.7	0.0	42809	58,274,594	0.969347	51			0.0	Ausgelöst
MSM63_4-	05.05.2017	Magnetotellurics	on	58 °16,477' N	000° 58,161' E	154.4	0.3	339.2	58,274,609	0.969348	56			0.0	

11	10:36		deck															
MSM63_4-10	05.05.2017 10:37	Magnetotellurics	on deck	58 °16,484' N	000° 58,155' E	154.9		337.9	58,274,741	0.969247	46						0.0	
MSM63_4-9	05.05.2017 10:57	Magnetotellurics	on deck	58 °16,506' N	000° 58,784' E	152.8	0.0		58,275,101	0.979733	71						0.0	
MSM63_4-8	05.05.2017 11:15	Magnetotellurics	on deck	58 °16,620' N	000° 58,498' E	153.6	0.0	83.3	58,276,994	0.974968	54						0.0	
MSM63_4-7	05.05.2017 11:33	Magnetotellurics	on deck	58 °17,030' N	000° 57,676' E	153.2	0.0	341.5	58,283,841	0.961272	89						0.0	
MSM63_4-6	05.05.2017 11:46	Magnetotellurics	on deck	58 °17,154' N	000° 57,335' E	153.7	0.0	279.9	58,285,894	0.955579	77						0.0	
MSM63_4-4	05.05.2017 11:59	Magnetotellurics	information	58 °17,204' N	000° 57,927' E	153.6	0.1	117.6	58,286,738	0.965443	44	6.00					0.0	Ausgelöst
MSM63_4-5	05.05.2017 12:03	Magnetotellurics	on deck	58 °17,204' N	000° 57,927' E	153.5	0.0	54.7	58,286,741	0.965443	36						0.0	
MSM63_4-3	05.05.2017 12:18	Magnetotellurics	information	58 °17,066' N	000° 58,263' E	154.8	0.0	304.8	58,284,440	0.971055	57						0.0	Ausgelöst
MSM63_4-4	05.05.2017 12:19	Magnetotellurics	on deck	58 °17,068' N	000° 58,264' E	154.5	0.4	345.9	58,284,461	0.971059	55						0.0	
MSM63_4-2	05.05.2017 12:31	Magnetotellurics	information	58 °16,915' N	000° 58,685' E	153.4	0.4	42.2	58,281,923	0.978079	30						0.0	Ausgelöst
MSM63_4-3	05.05.2017 12:31	Magnetotellurics	on deck	58 °16,916' N	000° 58,686' E	152.9	0.4		58,281,930	0.978092	30						0.0	
MSM63_4-1	05.05.2017 12:50	Magnetotellurics	information	58 °17,204' N	000° 58,710' E	153.3	0.0	326.8	58,286,732	0.978501	44						0.0	Ausgelöst
MSM63_4-2	05.05.2017 12:52	Magnetotellurics	on deck	58 °17,204' N	000° 58,710' E	153.3	0.0		58,286,734	0.978503	43						0.0	
MSM63_4-1	05.05.2017 13:06	Magnetotellurics	on deck	58 °17,569' N	000° 59,046' E	152.0	0.5		58,292,811	0.984097	36						0.0	
MSM63_7-1	05.05.2017 14:28	Seismic Towed Receiver	in the water	58 °12,526' N	000° 50,639' E	155.3		37.8	58,208,771	0.843991	11						0.0	Stb Scheerbrett
MSM63_7-1	05.05.2017 18:45	Seismic Towed Receiver	in the water	58 °18,131' N	000° 58,342' E	153.9	0.0	35.0	58,302,176	0.972360	351						0.0	P-Cable
MSM63_7-1	05.05.2017 18:47	Seismic Towed Receiver	in the water	58 °18,159' N	000° 58,381' E	153.1	0.0	33.6	58,302,650	0.973010	350						0.0	Bb Scheerbrett
MSM63_7-1	05.05.2017 19:00	Seismic Towed Receiver	in the water	58 °18,402' N	000° 58,715' E	152.3	0.0	37.2	58,306,693	0.978579	353						0.0	Airguns
MSM63_7-1	05.05.2017 19:12	Seismic Towed Receiver	information	58 °18,635' N	000° 59,036' E	152.4	0.0	33.8	58,310,583	0.983934	355						0.0	techn. Probleme Seismik, Beginn einholen
MSM63_7-1	05.05.2017 19:21	Seismic Towed Receiver	on deck	58 °18,804' N	000° 59,270' E	151.7	0.0	35.8	58,313,402	0.987830	346						0.0	Airguns
MSM63_7-1	05.05.2017 19:48	Seismic Towed Receiver	on deck	58 °19,318' N	000° 59,978' E	151.2	0.0	40.4	58,321,969	0.999634	345						0.0	Bb Scheerbrett
MSM63_7-1	05.05.2017 20:15	Seismic Towed Receiver	on deck	58 °19,829' N	001° 00,643' E	149.8	0.0	31.4	58,330,479	1,010,724	343						0.0	P-Cable

MSM63_7-1	05.05.2017 20:27	Seismic Towed Receiver	on deck	58 °20,057' N	001° 00,939' E	149.8	0.0	33.5	58,334,286	1,015,654	343	0.0	Stb Scheerbrett
MSM63_7-2	05.05.2017 20:40	Seismic Towed Receiver	in the water	58 °20,318' N	001° 01,277' E	149.4	0.0	38.6	58,338,626	1,021,284	346	0.0	Airguns
MSM63_7-2	05.05.2017 21:38	Seismic Towed Receiver	profile start	58 °19,763' N	001° 01,640' E	149.8		215.0	58,329,383	1,027,329	359	13.60	v=4,5kn, Kurs 218°
MSM63_7-2	05.05.2017 23:10	Seismic Towed Receiver	profile end	58 °14,333' N	000° 53,694' E	154.8		216.3	58,238,875	0.894895	351	15.20	0.0
MSM63_7-2	05.05.2017 23:11	Seismic Towed Receiver	alter course	58 °14,310' N	000° 53,662' E	154.8		215.5	58,238,500	0.894362	353	15.50	0.0 Kurs 038°
MSM63_7-2	05.05.2017 23:18	Seismic Towed Receiver	profile start	58 °14,281' N	000° 54,198' E	155.1	5.0	42.9	58,238,013	0.903307	353	15.70	0.0
MSM63_7-2	06.05.2017 00:46	Seismic Towed Receiver	profile end	58 °19,541' N	001° 01,939' E	149.3		37.0	58,325,677	1,032,320	353	15.20	0.0
MSM63_7-2	06.05.2017 00:46	Seismic Towed Receiver	alter course	58 °19,560' N	001° 01,968' E	149.9		36.8	58,325,998	1,032,795	350	14.40	0.0 Kurs 218°
MSM63_7-2	06.05.2017 01:02	Seismic Towed Receiver	profile start	58 °19,544' N	001° 02,102' E	148.8		209.4	58,325,728	1,035,026	354	13.20	0.0
MSM63_7-2	06.05.2017 02:34	Seismic Towed Receiver	profile end	58 °14,203' N	000° 54,297' E	154.7		219.4	58,236,718	0.904949	357		0.0
MSM63_7-2	06.05.2017 02:34	Seismic Towed Receiver	alter course	58 °14,195' N	000° 54,284' E	154.5		220.5	58,236,588	0.904741	357		0.0 Kurs: 038°
MSM63_7-2	06.05.2017 02:49	Seismic Towed Receiver	profile start	58 °14,188' N	000° 54,450' E	154.3		41.0	58,236,474	0.907495	348	13.30	0.0
MSM63_7-2	06.05.2017 04:18	Seismic Towed Receiver	profile end	58 °19,534' N	001° 02,295' E	147.9		37.1	58,325,573	1,038,247	2		0.0
MSM63_7-2	06.05.2017 04:18	Seismic Towed Receiver	alter course	58 °19,545' N	001° 02,311' E	148.2		37.3	58,325,755	1,038,510	2		0.0 Kurs 218°
MSM63_7-2	06.05.2017 04:27	Seismic Towed Receiver	profile start	58 °19,357' N	001° 02,653' E	152.3	5.0	214.3	58,322,625	1,044,220	1		0.0
MSM63_7-2	06.05.2017 05:56	Seismic Towed Receiver	profile end	58 °14,008' N	000° 54,831' E	155.1		217.6	58,233,474	0.913847	354		0.0
MSM63_7-2	06.05.2017 06:27	Seismic Towed Receiver	alter course	58 °13,719' N	000° 58,532' E	153.8		87.5	58,228,654	0.975528	2		0.0 Kurs 353°
MSM63_7-2	06.05.2017 06:34	Seismic Towed Receiver	profile start	58 °14,095' N	000° 58,915' E	157.6		357.9	58,234,917	0.981912	355		0.0
MSM63_7-2	06.05.2017 07:49	Seismic Towed Receiver	profile end	58 °19,684' N	000° 57,548' E	152.1		353.9	58,328,069	0.959137	8		0.0
MSM63_7-2	06.05.2017 07:51	Seismic Towed Receiver	on deck	58 °19,832' N	000° 57,514' E	152.0		353.6	58,330,537	0.958565	3		0.0 Airguns
MSM63_8-1	06.05.2017 09:34	Seismic Towed Receiver	in the water	58 °20,627' N	000° 57,349' E	151.5	0.9		58,343,779	0.955816	5		0.0 Streamer 70m
MSM63_8-1	06.05.2017 09:48	Seismic Towed Receiver	in the water	58 °20,977' N	000° 57,436' E	151.2			58,349,620	0.957262	4		0.0 Airguns
MSM63_8-1	06.05.2017 10:44	Seismic Towed Receiver	profile start	58 °19,614' N	001° 02,004' E	149.3		219.4	58,326,896	1,033,393	17		0.0 v=4,5kn, Kurs 218°
MSM63_8-1	06.05.2017 12:13	Seismic Towed Receiver	profile end	58 °14,210' N	000° 54,084' E	155.0		240.0	58,236,837	0.901405	18		0.0

MSM63_8-1	06.05.2017 12:14	Seismic Towed Receiver	alter course	58 °14,208' N	000° 54,078' E	154.8	238.9	58,236,806	0.901304	18		0.0	Kurs 038°
MSM63_8-1	06.05.2017 12:37	Seismic Towed Receiver	profile start	58 °14,216' N	000° 54,294' E	153.7	41.9	58,236,932	0.904892	3	11.00	0.0	
MSM63_8-1	06.05.2017 14:07	Seismic Towed Receiver	profile end	58 °19,563' N	001° 02,143' E	148.4	32.4	58,326,055	1,035,720	6		0.0	
MSM63_8-1	06.05.2017 14:08	Seismic Towed Receiver	alter course	58 °19,575' N	001° 02,157' E	148.6		58,326,254	1,035,949	8		0.0	Kurs 218°
MSM63_8-1	06.05.2017 14:35	Seismic Towed Receiver	profile start	58 °19,278' N	001° 01,922' E	149.4	216.6	58,321,306	1,032,026	347		0.0	
MSM63_8-1	06.05.2017 16:00	Seismic Towed Receiver	profile end	58 °14,437' N	000° 54,821' E	154.1	217.6	58,240,613	0.913688	353		0.0	
MSM63_8-1	06.05.2017 16:30	Seismic Towed Receiver	alter course	58 °16,235' N	000° 53,132' E	154.4	342.8	58,270,584	0.885535	17		0.0	Kurs 082°
MSM63_8-1	06.05.2017 16:35	Seismic Towed Receiver	profile start	58 °16,531' N	000° 53,389' E	150.6	73.6	58,275,508	0.889813	360		0.0	
MSM63_8-1	06.05.2017 17:43	Seismic Towed Receiver	profile end	58 °17,253' N	001° 02,952' E	149.5	84.2	58,287,556	1,049,195	8		0.0	
MSM63_8-1	06.05.2017 18:10	Seismic Towed Receiver	alter course	58 °15,391' N	001° 02,992' E	147.1	189.5	58,256,509	1,049,865	8	14.90	0.0	Kurs 308
MSM63_8-1	06.05.2017 18:16	Seismic Towed Receiver	profile start	58 °15,228' N	001° 02,422' E	150.6	297.3	58,253,795	1,040,372	21	16.80	0.0	
MSM63_8-1	06.05.2017 19:36	Seismic Towed Receiver	profile end	58 °18,830' N	000° 53,473' E	152.3	306.4	58,313,835	0.891215	14	20.30	0.0	
MSM63_8-1	06.05.2017 19:37	Seismic Towed Receiver	alter course	58 °18,871' N	000° 53,333' E	152.4	290.8	58,314,512	0.888889	20	20.80	0.0	Kurs 128°
MSM63_8-1	06.05.2017 19:58	Seismic Towed Receiver	profile start	58 °18,710' N	000° 54,326' E	152.9	127.3	58,311,831	0.905436	4	18.90	0.0	
MSM63_8-1	06.05.2017 21:11	Seismic Towed Receiver	profile end	58 °15,328' N	001° 02,589' E	150.6	129.0	58,255,471	1,043,149	6	24.90	0.0	
MSM63_8-1	06.05.2017 21:11	Seismic Towed Receiver	alter course	58 °15,315' N	001° 02,622' E	149.5	126.0	58,255,254	1,043,698	8	24.50	0.0	Kurs 308°
MSM63_8-1	06.05.2017 21:29	Seismic Towed Receiver	profile start	58 °15,136' N	001° 02,297' E	150.8	307.5	58,252,265	1,038,283	4	21.80	0.0	
MSM63_8-1	06.05.2017 22:43	Seismic Towed Receiver	profile end	58 °18,541' N	000° 54,011' E	153.5	311.0	58,309,018	0.900191	14	19.20	0.0	
MSM63_8-1	06.05.2017 22:44	Seismic Towed Receiver	alter course	58 °18,559' N	000° 53,970' E	153.2	303.4	58,309,319	0.899495	13		0.0	Kurs 128°
MSM63_8-1	06.05.2017 23:03	Seismic Towed Receiver	profile start	58 °18,697' N	000° 54,136' E	152.7	132.9	58,311,611	0.902274	0	18.90	0.0	
MSM63_8-1	07.05.2017 00:15	Seismic Towed Receiver	profile end	58 °15,251' N	001° 02,515' E	150.2	126.0	58,254,189	1,041,918	2		0.0	
MSM63_8-1	07.05.2017 00:15	Seismic Towed Receiver	alter course	58 °15,246' N	001° 02,532' E	151.2	120.9	58,254,092	1,042,202	3	19.30	0.0	Kurs 308°
MSM63_8-1	07.05.2017 00:32	Seismic Towed Receiver	profile start	58 °15,120' N	001° 02,194' E	150.4	308.4	58,251,994	1,036,561	6	21.50	0.0	
MSM63_8-1	07.05.2017 01:45	Seismic Towed Receiver	profile end	58 °18,507' N	000° 53,938' E	153.4	306.5	58,308,443	0.898969	5	24.60	0.0	

MSM63_8-1	07.05.2017 01:45	Seismic Towed Receiver	alter course	58 °18,536' N	000° 53,866' E	152.1	312.0	58,308,935	0.897759	12	24.90	0.0	Kurs 128°
MSM63_8-1	07.05.2017 01:59	Seismic Towed Receiver	profile start	58 °18,134' N	000° 53,209' E	152.1	130.7	58,302,238	0.886817	355	22.30	0.0	
MSM63_8-1	07.05.2017 03:08	Seismic Towed Receiver	profile end	58 °14,876' N	001° 01,133' E	151.9	125.2	58,247,939	1,018,878	358	24.90	0.0	
MSM63_8-1	07.05.2017 03:25	Seismic Towed Receiver	alter course	58 °15,577' N	001° 02,762' E	149.6	40.0	58,259,621	1,046,028	345	28.20	0.0	Kurs 308°
MSM63_8-1	07.05.2017 03:29	Seismic Towed Receiver	profile start	58 °15,865' N	001° 02,766' E	149.4	314.9	58,264,409	1,046,097	358		0.0	
MSM63_8-1	07.05.2017 04:38	Seismic Towed Receiver	profile end	58 °19,040' N	000° 55,100' E	151.4	315.1	58,317,334	0.918331	356	27.90	0.0	
MSM63_8-1	07.05.2017 04:39	Seismic Towed Receiver	alter course	58 °19,074' N	000° 54,999' E	150.7	301.6	58,317,897	0.916647	359	29.40	0.0	Kurs 128°
MSM63_8-1	07.05.2017 04:51	Seismic Towed Receiver	profile start	58 °18,729' N	000° 53,799' E	153.6	151.4	58,312,145	0.896651	12	27.30	0.0	
MSM63_8-1	07.05.2017 06:04	Seismic Towed Receiver	profile end	58 °15,378' N	001° 02,012' E	149.7	119.2	58,256,308	1,033,526	2	32.10	0.0	
MSM63_8-1	07.05.2017 06:18	Seismic Towed Receiver	alter course	58 °15,920' N	001° 03,317' E	149.3	34.4	58,265,327	1,055,287	359		0.0	Kurs 308°
MSM63_8-1	07.05.2017 06:23	Seismic Towed Receiver	profile start	58 °16,262' N	001° 03,148' E	150.0	305.7	58,271,032	1,052,464	1	32.10	0.0	
MSM63_8-1	07.05.2017 06:59	Seismic Towed Receiver	profile end	58 °17,883' N	000° 59,198' E	90.4	298.8	58,298,054	0.986633	11	27.70	0.0	
MSM63_8-1	07.05.2017 07:00	Seismic Towed Receiver	information	58 °17,913' N	000° 59,128' E	153.2	304.7	58,298,543	0.985471	11	30.00	0.0	techn. Probleme Airguns, Beginn einholen
MSM63_8-1	07.05.2017 07:07	Seismic Towed Receiver	on deck	58 °18,195' N	000° 59,048' E	152.8	351.0	58,303,242	0.984133	2		0.0	Streamer
MSM63_8-1	07.05.2017 07:12	Seismic Towed Receiver	on deck	58 °18,288' N	000° 59,048' E	145.2	335.9	58,304,808	0.984129	5	33.30	0.0	Airguns
MSM63_9-1	07.05.2017 07:54	Shallow-water Multibeam Echosounder	profile start	58 °17,271' N	000° 58,109' E	154.6	210.4	58,287,848	0.968479	353	30.40	0.0	v=7kn, Kurs 217°
MSM63_9-1	07.05.2017 07:59	Shallow-water Multibeam Echosounder	profile end	58 °16,830' N	000° 57,480' E	154.9	215.9	58,280,492	0.957993	356	27.70	0.0	
MSM63_9-1	07.05.2017 07:59	Shallow-water Multibeam Echosounder	alter course	58 °16,828' N	000° 57,477' E	154.7	215.9	58,280,463	0.957952	356	27.70	0.0	Kurs 037°
MSM63_9-1	07.05.2017 08:17	Shallow-water Multibeam Echosounder	profile start	58 °16,805' N	000° 57,448' E	155.7	35.9	58,280,090	0.957472	4	31.60	0.0	
MSM63_9-1	07.05.2017 08:25	Shallow-water Multibeam Echosounder	profile end	58 °17,471' N	000° 58,560' E	153.9	59.3	58,291,191	0.975998	1	33.10	0.0	

MSM63_9-1	07.05.2017 08:25	Shallow-water Multibeam Echosounder	alter course	58 °17,473' N	000° 58,563' E	152.6	54.9	58,291,211	0.976051	1	33.10	0.0	Kurs 286°	
MSM63_9-1	07.05.2017 08:42	Shallow-water Multibeam Echosounder	profile start	58 °16,906' N	000° 58,978' E	155.4	268.6	58,281,762	0.982972	9	34.70	0.0		
MSM63_9-1	07.05.2017 08:49	Shallow-water Multibeam Echosounder	profile end	58 °17,119' N	000° 57,685' E	154.8	286.1	58,285,323	0.961412	8	32.80	0.0		
MSM63_9-1	07.05.2017 08:49	Shallow-water Multibeam Echosounder	alter course	58 °17,119' N	000° 57,685' E	154.2	288.6	58,285,323	0.961412	8	32.80	0.0	Kurs 106°	
MSM63_9-1	07.05.2017 09:01	Shallow-water Multibeam Echosounder	profile start	58 °17,136' N	000° 57,653' E	153.5	100.4	58,285,599	0.960888	4	33.50	0.0		
MSM63_9-1	07.05.2017 09:07	Shallow-water Multibeam Echosounder	profile end	58 °16,888' N	000° 59,097' E	152.4	104.9	58,281,473	0.984958	3	34.50	0.0		
MSM63_9-1	07.05.2017 09:07	Shallow-water Multibeam Echosounder	alter course	58 °16,888' N	000° 59,102' E	153.0	108.5	58,281,462	0.985031	3	34.50	0.0	Kurs 043°	
MSM63_9-1	07.05.2017 09:25	Shallow-water Multibeam Echosounder	profile start	58 °17,198' N	000° 58,079' E	153.3	47.3	58,286,641	0.967991	353	31.90	0.0		
MSM63_9-1	07.05.2017 09:32	Shallow-water Multibeam Echosounder	profile end	58 °17,724' N	000° 59,000' E	152.9	46.8	58,295,400	0.983340	357	33.70	0.0		
MSM63_9-1	07.05.2017 09:32	Shallow-water Multibeam Echosounder	alter course	58 °17,725' N	000° 59,003' E	154.2	46.4	58,295,420	0.983380	357	33.70	0.0	v=3kn, Kurs 043°	
MSM63_9-1	07.05.2017 09:51	Shallow-water Multibeam Echosounder	profile start	58 °17,199' N	000° 58,063' E	152.5	41.1	58,286,645	0.967713	354	33.60	0.0		
MSM63_9-1	07.05.2017 10:04	Shallow-water Multibeam Echosounder	profile end	58 °17,707' N	000° 58,956' E	152.0	36.9	58,295,112	0.982598	350	32.20	0.0		
MSM63_1 0-1	07.05.2017 11:13	Shallow-water Multibeam Echosounder	profile start	58 °13,743' N	000° 54,172' E	153.2	1.0	58,229,046	0.902868	357	34.50	0.0	v=7kn; Kurs 000°	
MSM63_1 0-1	07.05.2017 12:38	Shallow-water Multibeam Echosounder	profile end	58 °22,346' N	000° 54,161' E	140.9	358.1	58,372,432	0.902679	359	32.90	0.0		
MSM63_1 0-1	07.05.2017 12:38	Shallow-water Multibeam Echosounder	alter course	58 °22,382' N	000° 54,150' E	142.4	346.4	58,373,035	0.902508	0	31.60	0.0	Kurs 180°	
MSM63_1 0-1	07.05.2017 12:51	Shallow-water Multibeam Echosounder	profile start	58 °22,114' N	000° 54,281' E	141.5	7.0	172.7	58,368,559	0.904682	355	33.50	0.0	

MSM63_1 0-1	07.05.2017 13:59	Shallow-water Multibeam Echosounder	profile end	58 °13,607' N	000° 54,280' E	155.5		178.5	58,226,790	0.904660	2	31.90	0.0	
MSM63_1 0-1	07.05.2017 14:00	Shallow-water Multibeam Echosounder	alter course	58 °13,577' N	000° 54,280' E	154.8		178.9	58,226,289	0.904667	2	33.10	0.0	Kurs 000°
MSM63_1 0-1	07.05.2017 14:15	Shallow-water Multibeam Echosounder	profile start	58 °13,595' N	000° 54,418' E	158.0		354.1	58,226,575	0.906972	9	32.70	0.0	
MSM63_1 0-1	07.05.2017 15:40	Shallow-water Multibeam Echosounder	profile end	58 °22,285' N	000° 54,428' E	144.1			58,371,414	0.907125	3	36.10	0.0	
MSM63_1 0-1	07.05.2017 15:40	Shallow-water Multibeam Echosounder	alter course	58 °22,313' N	000° 54,425' E	143.2		349.9	58,371,889	0.907080	3	34.90	0.0	Kurs 180°
MSM63_1 0-1	07.05.2017 15:47	Shallow-water Multibeam Echosounder	profile start	58 °22,262' N	000° 54,604' E	142.1		179.2	58,371,038	0.910069	7	35.30	0.0	
MSM63_1 0-1	07.05.2017 16:54	Shallow-water Multibeam Echosounder	profile end	58 °13,556' N	000° 54,599' E	154.4		192.3	58,225,928	0.909980	3	34.60	0.0	
MSM63_1 0-1	07.05.2017 16:54	Shallow-water Multibeam Echosounder	alter course	58 °13,544' N	000° 54,594' E	154.8	8.0	191.6	58,225,738	0.909903	3	34.60	0.0	Kurs 000°
MSM63_1 0-1	07.05.2017 17:03	Shallow-water Multibeam Echosounder	profile start	58 °13,533' N	000° 54,693' E	151.5			58,225,555	0.911547	3	31.20	0.0	
MSM63_1 0-1	07.05.2017 18:35	Shallow-water Multibeam Echosounder	profile end	58 °22,264' N	000° 54,740' E	140.3		0.3	58,371,067	0.912334	7	36.40	0.0	
MSM63_1 0-1	07.05.2017 18:36	Shallow-water Multibeam Echosounder	alter course	58 °22,272' N	000° 54,741' E	143.0		2.0	58,371,205	0.912352	7	36.40	0.0	Kurs 000°
MSM63_1 0-1	07.05.2017 18:44	Shallow-water Multibeam Echosounder	profile start	58 °22,293' N	000° 54,951' E	142.0		184.1	58,371,552	0.915848	10	32.90	0.0	
MSM63_1 0-1	07.05.2017 19:51	Shallow-water Multibeam Echosounder	profile end	58 °13,410' N	000° 54,885' E	155.4		192.4	58,223,493	0.914752	2	29.70	0.0	
MSM63_1 0-1	07.05.2017 19:59	Shallow-water Multibeam Echosounder	alter course	58 °13,031' N	000° 54,931' E	156.0		37.5	58,217,183	0.915516	7	36.60	0.0	Kurs 000°
MSM63_1 0-1	07.05.2017 20:08	Shallow-water Multibeam Echosounder	profile start	58 °13,573' N	000° 55,058' E	156.6			58,226,209	0.917640	5	32.10	0.0	
MSM63_1 0-1	07.05.2017 22:09	Shallow-water Multibeam Echosounder	profile end	58 °22,197' N	000° 55,093' E	139.7			58,369,945	0.918220	12	34.40	0.0	

MSM63_1 0-1	07.05.2017 22:09	Shallow-water Multibeam Echosounder	alter course	58 °22,204' N	000° 55,091' E	143.6	351.9	58,370,062	0.918181	11	35.10	0.0	Kurs 180°
MSM63_1 0-1	07.05.2017 22:19	Shallow-water Multibeam Echosounder	profile start	58 °22,225' N	000° 55,251' E	142.9	179.5	58,370,415	0.920851	19	38.40	0.0	
MSM63_1 0-1	07.05.2017 23:32	Shallow-water Multibeam Echosounder	profile end	58 °13,312' N	000° 55,160' E	155.9	215.8	58,221,864	0.919334	1	33.30	0.0	
MSM63_1 0-1	07.05.2017 23:32	Shallow-water Multibeam Echosounder	alter course	58 °13,294' N	000° 55,139' E	153.7	213.3	58,221,567	0.918977	359	34.70	0.0	Kurs 000°
MSM63_1 0-1	07.05.2017 23:50	Shallow-water Multibeam Echosounder	profile start	58 °13,612' N	000° 55,383' E	155.6	360.0	58,226,868	0.923042	11	33.60	0.0	
MSM63_1 0-1	08.05.2017 01:55	Shallow-water Multibeam Echosounder	profile end	58 °22,307' N	000° 55,431' E	142.8	0.9	58,371,783	0.923852	18	37.00	0.0	
MSM63_1 0-1	08.05.2017 01:55	Shallow-water Multibeam Echosounder	alter course	58 °22,319' N	000° 55,430' E	140.7	355.4	58,371,989	0.923833	18	37.00	0.0	Kurs 180°
MSM63_1 0-1	08.05.2017 02:04	Shallow-water Multibeam Echosounder	profile start	58 °22,040' N	000° 55,671' E	146.2	179.8	58,367,328	0.927848	15	35.60	0.0	
MSM63_1 0-1	08.05.2017 03:16	Shallow-water Multibeam Echosounder	profile end	58 °13,497' N	000° 55,578' E	155.0	188.4	58,224,947	0.926295	16	28.60	0.0	
MSM63_1 0-1	08.05.2017 03:16	Shallow-water Multibeam Echosounder	alter course	58 °13,456' N	000° 55,557' E	154.0	197.3	58,224,273	0.925946	13	27.90	0.0	Kurs 000°
MSM63_1 0-1	08.05.2017 03:27	Shallow-water Multibeam Echosounder	profile start	58 °13,505' N	000° 55,712' E	152.8		58,225,090	0.928526	18	32.10	0.0	
MSM63_1 0-1	08.05.2017 05:10	Shallow-water Multibeam Echosounder	profile end	58 °21,688' N	000° 55,869' E	146.4		58,361,467	0.931154	21	31.80	0.0	
MSM63_1 0-1	08.05.2017 05:10	Shallow-water Multibeam Echosounder	alter course	58 °21,695' N	000° 55,869' E	147.8	348.1	58,361,582	0.931152	21	31.80	0.0	Kurs 180°
MSM63_1 0-1	08.05.2017 05:17	Shallow-water Multibeam Echosounder	profile start	58 °21,717' N	000° 55,983' E	146.1	192.2	58,361,954	0.933052	22	29.20	0.0	
MSM63_1 0-1	08.05.2017 06:19	Shallow-water Multibeam Echosounder	profile end	58 °13,462' N	000° 55,907' E	156.1	189.3	58,224,372	0.931787	20	31.30	0.0	
MSM63_1 0-1	08.05.2017 06:20	Shallow-water Multibeam Echosounder	alter course	58 °13,428' N	000° 55,897' E	156.0	193.8	58,223,803	0.931619	19	30.90	0.0	Kurs 000°

MSM63_1 0-1	08.05.2017 06:29	Shallow-water Multibeam Echosounder	profile start	58 °13,443' N	000° 56,074' E	151.7		58,224,045	0.934568	21	35.40	0.0	
MSM63_1 0-1	08.05.2017 08:25	Shallow-water Multibeam Echosounder	profile end	58 °21,710' N	000° 56,173' E	149.7	357.3	58,361,834	0.936225	21	30.80	0.0	
MSM63_1 0-1	08.05.2017 08:25	Shallow-water Multibeam Echosounder	alter course	58 °21,711' N	000° 56,173' E	150.5	355.9	58,361,856	0.936222	21	30.80	0.0	Kurs 181°
MSM63_1 0-1	08.05.2017 08:33	Shallow-water Multibeam Echosounder	profile start	58 °21,713' N	000° 56,407' E	147.4	179.1	58,361,883	0.940111	22	31.60	0.0	
MSM63_1 0-1	08.05.2017 09:38	Shallow-water Multibeam Echosounder	profile end	58 °13,495' N	000° 56,269' E	156.8	181.4	58,224,910	0.937817	24	26.30	0.0	
MSM63_1 0-1	08.05.2017 09:38	Shallow-water Multibeam Echosounder	alter course	58 °13,492' N	000° 56,269' E	156.8	179.5	58,224,870	0.937817	24	26.30	0.0	Kurs 000°
MSM63_1 0-1	08.05.2017 09:48	Shallow-water Multibeam Echosounder	profile start	58 °13,481' N	000° 56,379' E	155.5		58,224,680	0.939642	28	27.60	0.0	
MSM63_1 0-1	08.05.2017 11:25	Shallow-water Multibeam Echosounder	profile end	58 °21,858' N	000° 56,595' E	144.7	347.2	58,364,307	0.943242	37	28.80	0.0	
MSM63_1 0-1	08.05.2017 11:25	Shallow-water Multibeam Echosounder	alter course	58 °21,872' N	000° 56,586' E	144.9	343.1	58,364,540	0.943101	40	28.20	0.0	Kurs 000°
MSM63_1 0-1	08.05.2017 11:34	Shallow-water Multibeam Echosounder	profile start	58 °21,685' N	000° 56,767' E	148.8	185.8	58,361,411	0.946117	32	25.90	0.0	
MSM63_1 0-1	08.05.2017 12:43	Shallow-water Multibeam Echosounder	profile end	58 °13,408' N	000° 56,583' E	156.2	205.6	58,223,471	0.943047	31	22.50	0.0	
MSM63_1 0-1	08.05.2017 12:43	Shallow-water Multibeam Echosounder	alter course	58 °13,391' N	000° 56,566' E	154.8	209.2	58,223,176	0.942768	28	22.80	0.0	Kurs 000°
MSM63_1 0-1	08.05.2017 12:54	Shallow-water Multibeam Echosounder	profile start	58 °13,491' N	000° 56,757' E	155.5	6.0	356.0	58,224,855	0.945947	24	22.20	0.0
MSM63_1 0-1	08.05.2017 14:17	Shallow-water Multibeam Echosounder	profile end	58 °22,222' N	000° 56,910' E	144.7	349.2	58,370,367	0.948497	13	22.80	0.0	
MSM63_1 0-1	08.05.2017 14:18	Shallow-water Multibeam Echosounder	alter course	58 °22,240' N	000° 56,899' E	140.8	343.3	58,370,674	0.948320	13		0.0	Kurs 180°
MSM63_1 0-1	08.05.2017 14:25	Shallow-water Multibeam Echosounder	profile start	58 °22,150' N	000° 57,125' E	143.9	183.2	58,369,171	0.952086	3	22.40	0.0	

MSM63_1 0-1	08.05.2017 15:42	Shallow-water Multibeam Echosounder	profile end	58 °13,275' N	000° 56,930' E	154.3		175.8	58,221,249	0.948838	12	21.60	0.0	
MSM63_1 0-1	08.05.2017 15:42	Shallow-water Multibeam Echosounder	alter course	58 °13,266' N	000° 56,930' E	153.9		182.3	58,221,092	0.948839	12	21.60	0.0	Kurs 001°
MSM63_1 0-1	08.05.2017 16:00	Shallow-water Multibeam Echosounder	profile start	58 °14,320' N	000° 57,123' E	153.7		0.2	58,238,667	0.952056	6	24.30	0.0	
MSM63_1 0-1	08.05.2017 16:51	Shallow-water Multibeam Echosounder	profile end	58 °20,099' N	000° 57,249' E	149.3		357.8	58,334,989	0.954142	1	20.90	0.0	
MSM63_1 0-1	08.05.2017 16:52	Shallow-water Multibeam Echosounder	alter course	58 °20,135' N	000° 57,245' E	151.2		358.0	58,335,586	0.954081	3	20.80	0.0	Kurs 181°
MSM63_1 0-1	08.05.2017 16:56	Shallow-water Multibeam Echosounder	profile start	58 °20,226' N	000° 57,505' E	149.7		184.5	58,337,099	0.958425	1	19.90	0.0	
MSM63_1 0-1	08.05.2017 17:46	Shallow-water Multibeam Echosounder	profile end	58 °14,507' N	000° 57,413' E	152.1		178.8	58,241,786	0.956887	8	21.00	0.0	
MSM63_1 0-1	08.05.2017 17:48	Shallow-water Multibeam Echosounder	alter course	58 °14,346' N	000° 57,380' E	153.1		195.3	58,239,103	0.956326	3	22.30	0.0	Kurs 000°
MSM63_1 0-1	08.05.2017 17:54	Shallow-water Multibeam Echosounder	profile start	58 °14,403' N	000° 57,588' E	154.0		1.0	58,240,057	0.959792	3	21.60	0.0	
MSM63_1 0-1	08.05.2017 18:44	Shallow-water Multibeam Echosounder	profile end	58 °20,176' N	000° 57,650' E	151.9		355.3	58,336,274	0.960831	7	21.50	0.0	
MSM63_1 0-1	08.05.2017 18:44	Shallow-water Multibeam Echosounder	alter course	58 °20,205' N	000° 57,646' E	151.8	7.0	352.6	58,336,758	0.960763	6	21.70	0.0	Kurs 180°
MSM63_1 0-1	08.05.2017 18:49	Shallow-water Multibeam Echosounder	profile start	58 °20,176' N	000° 57,883' E	151.6		175.6	58,336,264	0.964715	3	21.70	0.0	
MSM63_1 0-1	08.05.2017 19:40	Shallow-water Multibeam Echosounder	profile end	58 °14,426' N	000° 57,851' E	153.2		181.9	58,240,436	0.964175	8		0.0	
MSM63_1 0-1	08.05.2017 19:40	Shallow-water Multibeam Echosounder	alter course	58 °14,426' N	000° 57,851' E	153.2		181.9	58,240,436	0.964175	8		0.0	Kurs 000°
MSM63_1 0-1	08.05.2017 19:48	Shallow-water Multibeam Echosounder	profile start	58 °14,421' N	000° 58,143' E	153.7			58,240,350	0.969042	348	25.00	0.0	
MSM63_1 0-1	08.05.2017 20:37	Shallow-water Multibeam Echosounder	profile end	58 °20,134' N	000° 58,113' E	149.9			58,335,563	0.968551	352	22.20	0.0	

MSM63_1 0-1	08.05.2017 20:43	Shallow-water Multibeam Echosounder	profile start	58 °20,148' N	000° 58,426' E	152.3	191.3	58,335,795	0.973759	3	20.30	0.0	
MSM63_1 0-1	08.05.2017 20:43	Shallow-water Multibeam Echosounder	alter course	58 °20,145' N	000° 58,425' E	152.6	189.9	58,335,757	0.973746	3	20.30	0.0	Kurs 180°
MSM63_1 0-1	08.05.2017 21:32	Shallow-water Multibeam Echosounder	profile end	58 °14,420' N	000° 58,358' E	153.8	183.6	58,240,325	0.972639	359	22.60	0.0	
MSM63_1 0-1	08.05.2017 21:32	Shallow-water Multibeam Echosounder	alter course	58 °14,420' N	000° 58,358' E	153.8	183.6	58,240,325	0.972639	359	22.60	0.0	Kurs 000°
MSM63_1 0-1	08.05.2017 21:40	Shallow-water Multibeam Echosounder	profile start	58 °14,411' N	000° 58,690' E	154.6	358.5	58,240,182	0.978175	358	21.90	0.0	
MSM63_1 0-1	08.05.2017 22:30	Shallow-water Multibeam Echosounder	profile end	58 °20,135' N	000° 58,628' E	153.0	0.1	58,335,589	0.977127	354	23.20	0.0	
MSM63_1 0-1	08.05.2017 22:30	Shallow-water Multibeam Echosounder	alter course	58 °20,141' N	000° 58,628' E	151.4		58,335,689	0.977131	354	23.20	0.0	Kurs 180°
MSM63_1 0-1	08.05.2017 22:36	Shallow-water Multibeam Echosounder	profile start	58 °20,159' N	000° 58,939' E	151.5	184.2	58,335,976	0.982318	351	19.50	0.0	
MSM63_1 0-1	08.05.2017 23:25	Shallow-water Multibeam Echosounder	profile end	58 °14,298' N	000° 58,904' E	153.1	207.6	58,238,305	0.981731	352	19.80	0.0	
MSM63_1 0-1	08.05.2017 23:25	Shallow-water Multibeam Echosounder	alter course	58 °14,283' N	000° 58,889' E	153.2	208.1	58,238,054	0.981485	350	20.30	0.0	Kurs 000°
MSM63_1 0-1	08.05.2017 23:35	Shallow-water Multibeam Echosounder	profile start	58 °14,457' N	000° 59,221' E	153.8	356.2	58,240,944	0.987021	4	16.90	0.0	
MSM63_1 0-1	09.05.2017 00:23	Shallow-water Multibeam Echosounder	profile end	58 °20,058' N	000° 59,141' E	151.0	357.7	58,334,295	0.985678	356	20.20	0.0	
MSM63_1 0-1	09.05.2017 00:23	Shallow-water Multibeam Echosounder	alter course	58 °20,073' N	000° 59,140' E	151.6	359.9	58,334,544	0.985666	356		0.0	Kurs 180°
MSM63_1 0-1	09.05.2017 00:32	Shallow-water Multibeam Echosounder	profile start	58 °20,104' N	000° 59,478' E	151.3	181.3	58,335,073	0.991295	347	15.60	0.0	
MSM63_1 0-1	09.05.2017 01:20	Shallow-water Multibeam Echosounder	profile end	58 °14,472' N	000° 59,467' E	151.9	181.7	58,241,207	0.991120	357	14.20	0.0	
MSM63_1 0-1	09.05.2017 01:21	Shallow-water Multibeam Echosounder	alter course	58 °14,463' N	000° 59,467' E	153.0	179.6	58,241,045	0.991115	357	14.20	0.0	Kurs 000°

MSM63_1 0-1	09.05.2017 01:30	Shallow-water Multibeam Echosounder	profile start	58 °14,443' N	000° 59,784' E	153.6	0.1	58,240,711	0.996397	355	19.80	0.0		
MSM63_1 0-1	09.05.2017 02:19	Shallow-water Multibeam Echosounder	profile end	58 °20,037' N	000° 59,719' E	151.8	353.6	58,333,958	0.995317	349		0.0		
MSM63_1 0-1	09.05.2017 02:19	Shallow-water Multibeam Echosounder	alter course	58 °20,041' N	000° 59,718' E	149.7	356.8	58,334,014	0.995306	348	17.50	0.0	Kurs 180°	
MSM63_1 0-1	09.05.2017 02:27	Shallow-water Multibeam Echosounder	profile start	58 °20,064' N	001° 00,031' E	149.8	179.5	58,334,404	1,000,511	342	20.20	0.0		
MSM63_1 0-1	09.05.2017 03:16	Shallow-water Multibeam Echosounder	profile end	58 °14,446' N	001° 00,007' E	152.9	180.1	58,240,767	1,000,120	350	19.90	0.0		
MSM63_1 0-1	09.05.2017 03:16	Shallow-water Multibeam Echosounder	alter course	58 °14,426' N	001° 00,008' E	151.8	180.8	58,240,428	1,000,134	351	19.70	0.0	Kurs 000°	
MSM63_1 0-1	09.05.2017 03:21	Shallow-water Multibeam Echosounder	profile start	58 °14,432' N	001° 00,271' E	152.0		58,240,532	1,004,521	352	13.80	0.0		
MSM63_1 0-1	09.05.2017 04:11	Shallow-water Multibeam Echosounder	profile end	58 °20,059' N	001° 00,267' E	148.9		58,334,316	1,004,457	343		0.0		
MSM63_1 0-1	09.05.2017 04:11	Shallow-water Multibeam Echosounder	alter course	58 °20,088' N	001° 00,268' E	148.8	2.0	58,334,804	1,004,472	343	17.20	0.0	Kurs 180°	
MSM63_1 0-1	09.05.2017 04:15	Shallow-water Multibeam Echosounder	profile start	58 °20,082' N	001° 00,516' E	148.7	174.7	58,334,692	1,008,605	341	17.30	0.0		
MSM63_1 0-1	09.05.2017 04:40	Shallow-water Multibeam Echosounder	profile end	58 °17,132' N	001° 00,534' E	151.4	185.2	58,285,527	1,008,898	333		0.0		
MSM63_5- 1	09.05.2017 05:03	Seismic Ocean Bottom Receiver	release d	58 °16,254' N	000° 57,480' E	154.1	0.1	73.8	58,270,902	0.958001	331	15.70	0.0	
MSM63_5- 1	09.05.2017 05:17	Seismic Ocean Bottom Receiver	recove red	58 °16,407' N	000° 57,480' E	153.7	0.2	263.0	58,273,443	0.958001	331	18.80	0.0	
MSM63_5- 2	09.05.2017 05:26	Seismic Ocean Bottom Receiver	release d	58 °16,662' N	000° 58,107' E	154.4	0.6	35.4	58,277,698	0.968445	322	13.30	0.0	
MSM63_5- 2	09.05.2017 05:38	Seismic Ocean Bottom Receiver	recove red	58 °16,830' N	000° 58,141' E	157.2	0.4	52.5	58,280,501	0.969012	350	16.70	0.0	
MSM63_5- 13	09.05.2017 05:40	Seismic Ocean Bottom Receiver	release d	58 °16,837' N	000° 58,156' E	160.0	0.4	115.7	58,280,614	0.969268	349	14.50	0.0	
MSM63_5- 13	09.05.2017 05:49	Seismic Ocean Bottom Receiver	recove red	58 °16,931' N	000° 58,200' E	160.1		166.7	58,282,187	0.970006	351		0.0	
MSM63_5- 18	09.05.2017 05:52	Seismic Ocean Bottom Receiver	release d	58 °16,891' N	000° 58,208' E	165.3	0.3	359.1	58,281,512	0.970128	348	16.90	0.0	
MSM63_5- 18	09.05.2017 06:02	Seismic Ocean Bottom Receiver	recove red	58 °17,036' N	000° 58,341' E	154.2	0.4		58,283,936	0.972345	348		0.0	

MSM63_5-7	09.05.2017 06:12	Seismic Ocean Bottom Receiver	release d	58 °17,299' N	000° 59,025' E	151.7	0.8	38.9	58,288,319	0.983757	341	14.70	0.0
MSM63_5-7	09.05.2017 06:24	Seismic Ocean Bottom Receiver	recove red	58 °17,470' N	000° 59,066' E	152.5		324.8	58,291,170	0.984437	337	15.20	0.0
MSM63_5-9	09.05.2017 06:38	Seismic Ocean Bottom Receiver	release d	58 °16,579' N	000° 58,839' E	152.7	0.2	208.7	58,276,316	0.980643	327	16.30	0.0
MSM63_5-9	09.05.2017 06:47	Seismic Ocean Bottom Receiver	recove red	58 °16,681' N	000° 58,808' E	153.1	0.5	62.7	58,278,010	0.980125	330		0.0
MSM63_5-16	09.05.2017 06:55	Seismic Ocean Bottom Receiver	release d	58 °16,668' N	000° 58,307' E	155.1	0.2	101.4	58,277,794	0.971780	331	17.90	0.0
MSM63_5-16	09.05.2017 07:07	Seismic Ocean Bottom Receiver	recove red	58 °16,762' N	000° 58,344' E	155.7		174.6	58,279,362	0.972399	322	18.20	0.0
MSM63_5-10	09.05.2017 07:14	Seismic Ocean Bottom Receiver	release d	58 °16,735' N	000° 58,406' E	154.4	0.1	356.1	58,278,910	0.973431	326		0.0
MSM63_5-10	09.05.2017 07:24	Seismic Ocean Bottom Receiver	recove red	58 °16,808' N	000° 58,389' E	155.5		183.1	58,280,128	0.973151	326		0.0
MSM63_5-11	09.05.2017 07:31	Seismic Ocean Bottom Receiver	release d	58 °16,755' N	000° 58,415' E	154.8	0.1		58,279,255	0.973589	321		0.0
MSM63_5-11	09.05.2017 07:42	Seismic Ocean Bottom Receiver	recove red	58 °16,817' N	000° 58,360' E	155.5		168.2	58,280,275	0.972674	326	13.60	0.0
MSM63_5-17	09.05.2017 08:02	Seismic Ocean Bottom Receiver	release d	58 °16,790' N	000° 58,387' E	155.4	0.1	319.4	58,279,833	0.973110	327	15.90	0.0
MSM63_5-17	09.05.2017 08:18	Seismic Ocean Bottom Receiver	recove red	58 °16,847' N	000° 58,515' E	155.2	0.2	243.5	58,280,789	0.975253	329	14.00	0.0
MSM63_5-8	09.05.2017 08:20	Seismic Ocean Bottom Receiver	release d	58 °16,845' N	000° 58,499' E	153.9	0.2	83.7	58,280,746	0.974977	338	15.60	0.0
MSM63_5-8	09.05.2017 08:31	Seismic Ocean Bottom Receiver	recove red	58 °16,916' N	000° 58,639' E	153.9		346.4	58,281,933	0.977311	344	13.80	0.0
MSM63_5-3	09.05.2017 08:39	Seismic Ocean Bottom Receiver	release d	58 °16,719' N	000° 58,090' E	155.3	0.1	46.1	58,278,646	0.968164	335		0.0
MSM63_5-3	09.05.2017 08:49	Seismic Ocean Bottom Receiver	recove red	58 °16,757' N	000° 58,224' E	158.5		173.6	58,279,280	0.970402	337		0.0
MSM63_5-15	09.05.2017 08:54	Seismic Ocean Bottom Receiver	release d	58 °16,743' N	000° 58,288' E	156.7	0.3	130.1	58,279,051	0.971472	331	11.00	0.0
MSM63_5-15	09.05.2017 09:04	Seismic Ocean Bottom Receiver	recove red	58 °16,788' N	000° 58,095' E	156.7		121.7	58,279,794	0.968257	316	16.00	0.0
MSM63_5-4	09.05.2017 09:06	Seismic Ocean Bottom Receiver	release d	58 °16,780' N	000° 58,141' E	157.2	1.0	104.0	58,279,668	0.969018	313	17.20	0.0
MSM63_5-4	09.05.2017 09:16	Seismic Ocean Bottom Receiver	recove red	58 °16,825' N	000° 58,282' E	163.9	1.0	172.2	58,280,411	0.971361	332	16.30	0.0
MSM63_5-12	09.05.2017 09:19	Seismic Ocean Bottom Receiver	release d	58 °16,790' N	000° 58,273' E	160.5	0.1	355.5	58,279,835	0.971223	329	15.60	0.0
MSM63_5-12	09.05.2017 09:30	Seismic Ocean Bottom Receiver	recove red	58 °16,817' N	000° 58,323' E	158.6	0.4	76.5	58,280,285	0.972046	324	17.00	0.0
MSM63_5-5	09.05.2017 09:31	Seismic Ocean Bottom Receiver	release d	58 °16,817' N	000° 58,338' E	157.8	0.2	128.2	58,280,291	0.972299	326	15.90	0.0
MSM63_5-5	09.05.2017 09:42	Seismic Ocean Bottom Receiver	recove red	58 °16,889' N	000° 58,432' E	157.6	0.2	104.0	58,281,479	0.973875	317	14.70	0.0

MSM63_5-6	09.05.2017 09:44	Seismic Ocean Bottom Receiver	release	58 °16,891' N	000° 58,448' E	156.8	0.7	163.0	58,281,521	0.974140	308	13.90	0.0	
MSM63_5-6	09.05.2017 09:54	Seismic Ocean Bottom Receiver	recovered	58 °16,957' N	000° 58,482' E	170.6	0.2	48.0	58,282,615	0.974707	317		0.0	
MSM63_5-14	09.05.2017 10:04	Seismic Ocean Bottom Receiver	information	58 °16,986' N	000° 57,716' E	153.4	0.1		58,283,100	0.961936	312	11.00	0.0	
MSM63_5-14	09.05.2017 10:15	Seismic Ocean Bottom Receiver	recovered	58 °17,008' N	000° 57,806' E	154.0	0.3		58,283,465	0.963440	298		0.0	
MSM63_1-1-1	09.05.2017 11:24	Seismic Towed Receiver	in the water	58 °12,740' N	000° 55,685' E	156.1	0.0	347.5	58,212,329	0.928091	289	15.40	0.0	Stb. Scherrbrett
MSM63_1-1-1	09.05.2017 12:55	Seismic Towed Receiver	PCable in water	58 °14,677' N	000° 55,151' E	155.8	0.0	350.2	58,244,620	0.919184	294	14.00	0.0	
MSM63_1-1-1	09.05.2017 12:57	Seismic Towed Receiver	in the water	58 °14,727' N	000° 55,138' E	154.2	0.0	356.3	58,245,443	0.918969	286	14.30	0.0	Bb. Scheerbrett
MSM63_1-1-1	09.05.2017 13:12	Seismic Towed Receiver	in the water	58 °15,049' N	000° 55,050' E	155.3	0.0	348.7	58,250,824	0.917500	284	14.50	0.0	GI-Guns
MSM63_1-1-1	09.05.2017 13:33	Seismic Towed Receiver	profile start	58 °15,915' N	000° 55,293' E	155.3	0.0		58,265,246	0.921553	294	18.20	0.0	v=3kn Kurs: 036°
MSM63_1-1-1	09.05.2017 13:48	Seismic Towed Receiver	information	58 °16,481' N	000° 56,068' E	154.9	0.0	36.9	58,274,688	0.934461	299	18.30	0.0	technische Probleme
MSM63_1-1-1	09.05.2017 13:51	Seismic Towed Receiver	on deck	58 °16,529' N	000° 56,134' E	151.6	0.0	34.7	58,275,488	0.935562	303	16.60	0.0	GI-Guns
MSM63_1-1-1	09.05.2017 13:54	Seismic Towed Receiver	information	58 °16,591' N	000° 56,217' E	155.4	0.0	33.4	58,276,509	0.936955	302	17.30	0.0	Scheerbrett rangeholt
MSM63_1-1-1	09.05.2017 16:39	Seismic Towed Receiver	on deck	58 °19,682' N	001° 00,492' E	150.8	0.0	45.4	58,328,032	1,008,197	291	17.60	0.0	Stb Scheerbrett
MSM63_1-1-1	09.05.2017 17:07	Seismic Towed Receiver	on deck	58 °20,209' N	001° 00,780' E	149.2	0.0	300.3	58,336,817	1,013,006	291	20.80	0.0	Bb Scheerbrett
MSM63_1-1-1	09.05.2017 17:07	Seismic Towed Receiver	on deck	58 °20,214' N	001° 00,750' E	148.6	0.0	290.2	58,336,904	1,012,495	295	21.60	0.0	P-cable
MSM63_1-2-1	09.05.2017 20:10	Seismic Towed Receiver	in the water	58 °20,417' N	001° 06,731' E	140.9	0.0	295.4	58,340,280	1,112,182	306	18.30	0.0	Streamer 200m
MSM63_1-2-1	09.05.2017 20:32	Seismic Towed Receiver	in the water	58 °20,652' N	001° 05,782' E	142.6	0.0	287.1	58,344,205	1,096,371	305	17.00	0.0	Airguns
MSM63_1-2-1	09.05.2017 21:25	Seismic Towed Receiver	profile start	58 °21,650' N	001° 01,853' E	144.3		191.7	58,360,840	1,030,889	305	20.30	0.0	v=4,5kn, Kurs 180°
MSM63_1-2-1	09.05.2017 23:39	Seismic Towed Receiver	alter course	58 °11,527' N	001° 01,847' E	151.2		179.4	58,192,114	1,030,776	308	17.60	0.0	Kurs 258°
MSM63_1-2-1	10.05.2017 00:26	Seismic Towed Receiver	alter course	58 °10,648' N	000° 55,786' E	156.4		286.3	58,177,459	0.929771	305	17.70	0.0	Kurs 000°
MSM63_1-2-1	10.05.2017 02:54	Seismic Towed Receiver	alter course	58 °21,706' N	000° 56,083' E	147.8			58,361,762	0.934720	291	20.20	0.0	Kurs 196°
MSM63_1-2-1	10.05.2017 04:13	Seismic Towed Receiver	alter course	58 °16,645' N	000° 52,731' E	154.0		190.6	58,277,418	0.878854	301	16.00	0.0	Kurs 090°
MSM63_1-2-1	10.05.2017 05:46	Seismic Towed Receiver	alter course	58 °16,247' N	001° 05,741' E	146.8		89.5	58,270,788	1,095,689	299	17.50	0.0	Kurs 000°
MSM63_1-2-1	10.05.2017 06:02	Seismic Towed Receiver	alter course	58 °17,244' N	001° 06,492' E	144.7		358.2	58,287,396	1,108,206	297	17.90	0.0	Kurs 270°

MSM63_1 2-1	10.05.2017 07:48	Seismic Towed Receiver	alter course	58 °17,615' N	000° 51,803' E	153.8	270.7	58,293,588	0.863386	278	15.50	0.0	Kurs 000°
MSM63_1 2-1	10.05.2017 07:58	Seismic Towed Receiver	alter course	58 °18,236' N	000° 51,326' E	153.6	359.9	58,303,926	0.855440	276	18.60	0.0	Kurs 088°
MSM63_1 2-1	10.05.2017 08:10	Seismic Towed Receiver	inform ation	58 °18,523' N	000° 52,762' E	152.5	88.0	58,308,721	0.879369	286	19.70	0.0	tech. Probleme Streamer
MSM63_1 2-1	10.05.2017 08:10	Seismic Towed Receiver	inform ation	58 °18,524' N	000° 52,786' E	151.5	90.0	58,308,727	0.879768	286	19.20	0.0	Unterbrechung Profil
MSM63_1 2-1	10.05.2017 09:07	Seismic Towed Receiver	inform ation	58 °19,705' N	000° 53,811' E	152.9	2.0	58,328,410	0.896855	276	17.30	0.0	Streamer- Segment getauscht
MSM63_1 2-1	10.05.2017 09:38	Seismic Towed Receiver	inform ation	58 °18,542' N	000° 53,053' E	153.0	94.3	58,309,029	0.884213	288	17.40	0.0	Fortsetzung Profil
MSM63_1 2-1	10.05.2017 10:36	Seismic Towed Receiver	alter course	58 °18,645' N	001° 01,265' E	151.2	88.7	58,310,752	1,021,087	273	13.80	0.0	Kurs 231°
MSM63_1 2-1	10.05.2017 12:17	Seismic Towed Receiver	alter course	58 °13,866' N	000° 51,195' E	157.3	236.7	58,231,092	0.853247	295	13.20	0.0	Kurs 156°
MSM63_1 2-1	10.05.2017 12:53	Seismic Towed Receiver	alter course	58 °11,460' N	000° 52,709' E	156.5	155.9	58,190,999	0.878481	288		0.0	Kurs 024°
MSM63_1 2-1	10.05.2017 15:35	Seismic Towed Receiver	alter course	58 °21,969' N	001° 02,441' E	148.1		58,366,150	1,040,692	278		0.0	Kurs 277°
MSM63_1 2-1	10.05.2017 15:58	Seismic Towed Receiver	alter course	58 °22,559' N	000° 59,892' E	142.5	277.8	58,375,991	0.998204	278		0.0	Kurs 185°
MSM63_1 2-1	10.05.2017 18:40	Seismic Towed Receiver	alter course	58 °10,879' N	000° 57,205' E	154.5	179.3	58,181,318	0.953410	268		0.0	Kurs 089°
MSM63_1 2-1	10.05.2017 18:58	Seismic Towed Receiver	alter course	58 °10,600' N	000° 59,484' E	152.9	89.6	58,176,673	0.991399	267		0.0	Kurs 351°
MSM63_1 2-1	10.05.2017 21:28	Seismic Towed Receiver	alter course	58 °21,461' N	000° 56,799' E	150.0	350.0	58,357,688	0.946656	67		0.0	Kurs 254°
MSM63_1 2-1	10.05.2017 21:45	Seismic Towed Receiver	alter course	58 °21,526' N	000° 54,680' E	147.7	255.7	58,358,759	0.911331	60		0.0	Kurs 153°
MSM63_1 2-1	11.05.2017 00:12	Seismic Towed Receiver	alter course	58 °11,601' N	001° 02,691' E	146.0	171.3	58,193,346	1,044,858	266		0.0	Kurs 346°
MSM63_1 2-1	11.05.2017 01:16	Seismic Towed Receiver	alter course	58 °15,563' N	001° 01,651' E	151.8	342.3	58,259,388	1,027,510	78		0.0	Kurs 301°
MSM63_1 2-1	11.05.2017 02:44	Seismic Towed Receiver	alter course	58 °19,387' N	000° 51,257' E	153.6	304.2	58,323,124	0.854291	84		0.0	Kurs 191°
MSM63_1 2-1	11.05.2017 03:18	Seismic Towed Receiver	alter course	58 °17,362' N	000° 49,687' E	154.3	190.3	58,289,364	0.828110	63		0.0	Kurs 091°
MSM63_1 2-1	11.05.2017 05:32	Seismic Towed Receiver	alter course	58 °16,830' N	001° 08,121' E	144.5	83.5	58,280,505	1,135,355	60		0.0	Kurs 282°
MSM63_1 2-1	11.05.2017 05:56	Seismic Towed Receiver	inform ation	58 °17,617' N	001° 06,617' E	145.0	291.4	58,293,609	1,110,285	69		0.0	Airguns an Deck - techn. Problem
MSM63_1 2-1	11.05.2017 06:43	Seismic Towed Receiver	inform ation	58 °18,111' N	001° 02,906' E	149.0	281.8	58,301,846	1,048,434	74		0.0	Airguns zu Wasser, Fortsetzung Profil

MSM63_1 2-1	11.05.2017 07:06	Seismic Towed Receiver	alter course	58 °18,297' N	000° 59,775' E	151.2	244.1	58,304,942	0.996258	82	0.0	Kurs 218°	
MSM63_1 2-1	11.05.2017 08:10	Seismic Towed Receiver	alter course	58 °14,532' N	000° 54,123' E	155.4	217.2	58,242,203	0.902055	91	0.0	Kurs 353°	
MSM63_1 2-1	11.05.2017 09:33	Seismic Towed Receiver	alter course	58 °18,455' N	000° 57,144' E	153.6	354.2	58,307,587	0.952406	103	0.0	Kurs 173°	
MSM63_1 2-1	11.05.2017 10:33	Seismic Towed Receiver	alter course	58 °15,377' N	000° 58,640' E	153.3	170.9	58,256,283	0.977326	137	0.0	Kurs 353°	
MSM63_1 2-1	11.05.2017 11:40	Seismic Towed Receiver	alter course	58 °18,508' N	000° 58,593' E	152.3	353.6	58,308,474	0.976549	137	0.0	Kurs 255°	
MSM63_1 2-1	11.05.2017 11:58	Seismic Towed Receiver	alter course	58 °18,650' N	000° 56,384' E	154.6	261.9	58,310,832	0.939734	129	0.0	Kurs 128°	
MSM63_1 2-1	11.05.2017 12:54	Seismic Towed Receiver	alter course	58 °16,004' N	001° 01,346' E	152.2	116.4	58,266,729	1,022,432	130	0.0	Kurs 095°	
MSM63_1 2-1	11.05.2017 13:01	Seismic Towed Receiver	alter course	58 °15,944' N	001° 02,295' E	149.8	104.7	58,265,734	1,038,248	126	0.0	Kurs 308°	
MSM63_1 2-1	11.05.2017 14:17	Seismic Towed Receiver	profile end	58 °18,268' N	000° 54,933' E	155.0	298.9	58,304,459	0.915551	138	0.0		
MSM63_1 2-1	11.05.2017 14:31	Seismic Towed Receiver	on deck	58 °17,850' N	000° 54,086' E	155.5	181.9	58,297,500	0.901427	138	0.0	GI-Gun	
MSM63_1 2-1	11.05.2017 14:31	Seismic Towed Receiver	on deck	58 °17,848' N	000° 54,085' E	153.7	182.3	58,297,470	0.901423	138	0.0	Streamer	
MSM63_1 3-1	11.05.2017 14:46	Sound Velocity Profiler	in the water	58 °17,493' N	000° 54,057' E	154.3	182.6	58,291,554	0.900945	152	11.00	0.0	
MSM63_1 3-1	11.05.2017 15:06	Sound Velocity Profiler	max depth/ on ground	58 °17,474' N	000° 54,055' E	154.0	0.0	357.0	58,291,234	0.900914	142	EL1	145.0
MSM63_1 3-1	11.05.2017 15:13	Sound Velocity Profiler	on deck	58 °17,474' N	000° 54,055' E	154.3	0.1	58,291,228	0.900915	147	EL1	-11.0	
MSM63_0 _Underwa y-4	12.05.2017 01:35	Parasound	inform ation	57 °22,524' N	001° 26,553' W	109.9	233.7	57,375,399	- 1,442,544	135	17.70	0.0	
MSM63_0 _Underwa y-3	12.05.2017 01:35	Multibeam Echosounder	inform ation	57 °22,497' N	001° 26,619' W	109.9	231.3	57,374,943	- 1,443,657	135	17.40	0.0	
MSM63_0 _Underwa y-1	12.05.2017 01:35	ADCP	inform ation	57 °22,485' N	001° 26,647' W	109.9	232.2	57,374,751	- 1,444,114	135	17.50	0.0	

Stationsliste MSM63-2

Activity - Device Operation	Timestamp	Device	Action	Latitude	Longitude	Depth (m)	Speed (kn)	Course	Latitude (deg)	Longitude (deg)	Wind Dir	Wind Velocity	Winch	Rope Length (m)	Comment
MSM63_0_Underway-5	2017-05-18 19:18:00	Multibeam Echosounder	station start	57°11,269' N	001°40,217' W	78.2	12.9	78.6	57.187821	-1.670277	177	15.00		0.0	
MSM63_0_Underway-6	2017-05-18 19:18:23	ADCP	information	57°11,285' N	001°40,068' W	76.7	12.9	78.9	57.188087	-1.667795	176	14.70		0.0	
MSM63_1_4-1	2017-05-19 00:06:45	Parasound	profile start	57°56,136' N	000°33,169' W	111.6	7.3	91.1	57.935606	-0.552825	176	11.30		0.0	v=7kn, Kurs 090°
MSM63_1_4-1	2017-05-19 02:18:33	Parasound	alter course	57°56,027' N	000°04,013' W	123.3	7.0	90.3	57.933789	-0.066891	140	5.80		0.0	Kurs 000°
MSM63_1_4-1	2017-05-19 02:42:02	Parasound	alter course	57°58,530' N	000°03,793' W	125.2	6.9	286.9	57.975503	-0.063212	146	4.80		0.0	Kurs 270°
MSM63_1_4-1	2017-05-19 04:41:00	Parasound	alter course	57°58,480' N	000°30,222' W	103.5	7.1	273.3	57.974670	-0.503706	119	8.30		0.0	Kurs 000°
MSM63_1_4-1	2017-05-19 04:59:55	Parasound	alter course	58°00,549' N	000°30,650' W	116.9	7.2	25.0	58.009147	-0.510827	116	10.90		0.0	Kurs 090°
MSM63_1_4-1	2017-05-19 07:01:24	Parasound	alter course	58°00,830' N	000°04,012' W	126.0	7.0	88.8	58.013836	-0.066870	114	8.90		0.0	Kurs 359°
MSM63_1_4-1	2017-05-19 07:24:55	Parasound	alter course	58°03,461' N	000°03,618' W	130.4	7.1	356.6	58.057676	-0.060299	110	9.50		0.0	Kurs 269°
MSM63_1_4-1	2017-05-19 09:21:25	Parasound	alter course	58°03,116' N	000°29,027' W	119.8	6.8	268.9	58.051932	-0.483790	100	5.90		0.0	Kurs 059°
MSM63_1_4-1	2017-05-19 09:41:26	Parasound	alter course	58°04,412' N	000°26,688' W	122.6	7.2	59.6	58.073538	-0.444795	95	6.30		0.0	Kurs 180°
MSM63_1_4-1	2017-05-19 10:59:02	Parasound	alter course	57°55,825' N	000°25,883' W	118.1	6.8	180.0	57.930421	-0.431375	149	7.20		0.0	Kurs 090°
MSM63_1_4-1	2017-05-19 11:25:00	Parasound	alter course	57°55,506' N	000°20,361' W	117.0	7.1	88.9	57.925093	-0.339355	178	5.10		0.0	Kurs 000°
MSM63_1_4-1	2017-05-19 12:12:28	Parasound	profile end	58°00,749' N	000°19,835' W	124.4	1.2	2.5	58.012490	-0.330589	84	7.00		0.0	
MSM63_1_4-1	2017-05-19 12:12:29	Parasound	information	58°00,749' N	000°19,835' W	123.9	1.1	3.5	58.012490	-0.330589	84	7.00		0.0	Unterbrechung f. CTD Station
MSM63_1_5-1	2017-05-19 12:22:04	CTD	in the water	58°00,763' N	000°19,850' W	123.8	0.0	87.7	58.012719	-0.330829	94	7.00	EL1	-1.0	
MSM63_1_5-1	2017-05-19 12:35:26	CTD	max depth/ on ground	58°00,763' N	000°19,850' W	123.7	0.0	300.0	58.012724	-0.330828	89	5.60	EL1	119.0	
MSM63_1_5-1	2017-05-19 12:54:14	CTD	on deck	58°00,764' N	000°19,850' W	123.9	0.0	308.6	58.012726	-0.330829	86	5.10	EL1	-13.0	
MSM63_1_4-1	2017-05-19 12:54:34	Parasound	profile start	58°00,764' N	000°19,850' W	123.9	0.0	312.4	58.012725	-0.330830	86	5.20	EL1	-13.0	v=7kn Kurs: 000°

MSM63_1 4-1	2017-05-19 13:28:43	Parasound	alter course	58°04,253' N	000°19,812' W	125.7	7.1	1.4	58.070890	-0.330192	87	6.90	0.0	Kurs 090°
MSM63_1 4-1	2017-05-19 13:56:12	Parasound	alter course	58°04,491' N	000°14,022' W	127.7	7.1	103.5	58.074842	-0.233705	17	4.50	0.0	Kurs 180°
MSM63_1 4-1	2017-05-19 15:12:54	Parasound	profile end	57°55,497' N	000°13,529' W	101.5	6.2	181.2	57.924952	-0.225492	353	8.50	0.0	
MSM63_1 6-1	2017-05-19 15:19:48	CTD	in the water	57°55,470' N	000°13,531' W	104.3	0.1	223.3	57.924502	-0.225511	2	8.80	EL1	-1.0
MSM63_1 6-1	2017-05-19 15:31:26	CTD	max depth/ on ground	57°55,470' N	000°13,532' W	104.3	0.0	177.8	57.924501	-0.225534	10	9.80	EL1	98.0
MSM63_1 6-1	2017-05-19 15:40:21	CTD	on deck	57°55,470' N	000°13,532' W	104.2	0.0	240.9	57.924500	-0.225526	24	9.30	EL1	-14.0
MSM63_1 7-1	2017-05-19 16:09:46	Shallow-water Multibeam Echosounder	profile start	57°57,308' N	000°17,636' W	118.4	6.9	280.1	57.955135	-0.293931	12	12.90	0.0	v=7kn, Kurs 270°
MSM63_1 7-1	2017-05-19 16:53:42	Shallow-water Multibeam Echosounder	alter course	57°57,306' N	000°27,478' W	118.2	7.1	269.3	57.955099	-0.457969	7	13.30	0.0	Kurs 090°
MSM63_1 7-1	2017-05-19 17:43:11	Shallow-water Multibeam Echosounder	alter course	57°57,719' N	000°17,956' W	119.2	7.0	91.0	57.961977	-0.299272	21	17.80	0.0	Kurs 270°
MSM63_1 7-1	2017-05-19 18:30:48	Shallow-water Multibeam Echosounder	alter course	57°57,448' N	000°27,502' W	117.1	7.0	270.5	57.957467	-0.458363	26	16.70	0.0	Kurs 090°
MSM63_1 7-1	2017-05-19 19:19:31	Shallow-water Multibeam Echosounder	alter course	57°57,856' N	000°17,973' W	119.7	7.0	90.1	57.964273	-0.299544	8	20.60	0.0	Kurs 270°
MSM63_1 7-1	2017-05-19 20:06:36	Shallow-water Multibeam Echosounder	alter course	57°57,586' N	000°27,555' W	117.0	7.1	273.8	57.959775	-0.459258	17	18.60	0.0	Kurs 090°
MSM63_1 7-1	2017-05-19 20:57:54	Shallow-water Multibeam Echosounder	alter course	57°58,274' N	000°17,851' W	120.4	7.0	96.7	57.971225	-0.297515	15	22.80	0.0	Kurs 270°
MSM63_1 7-1	2017-05-19 21:45:06	Shallow-water Multibeam Echosounder	alter course	57°57,981' N	000°27,587' W	115.7	6.9	271.6	57.966355	-0.459784	23	20.10	0.0	Kurs 090°
MSM63_1 7-1	2017-05-19 22:34:45	Shallow-water Multibeam Echosounder	alter course	57°58,408' N	000°17,944' W	120.2	6.9	96.9	57.973474	-0.299067	20	21.30	0.0	Kurs 270°
MSM63_1 7-1	2017-05-19 23:23:54	Shallow-water Multibeam Echosounder	alter course	57°58,169' N	000°27,755' W	115.4	6.5	306.4	57.969488	-0.462584	20	19.80	0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 00:14:24	Shallow-water Multibeam Echosounder	alter course	57°58,809' N	000°17,960' W	120.5	7.1	93.0	57.980153	-0.299332	20	19.50	0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 01:00:59	Shallow-water Multibeam	alter course	57°58,532' N	000°27,536' W	119.0	7.0	273.7	57.975528	-0.458935	43	18.50	0.0	Kurs 090°

Echosounder														
MSM63_1 7-1	2017-05-20 01:50:38	Shallow-water Multibeam Echosounder	alter course	57°58,952' N	000°17,942' W	120.9	7.1	94.5	57.982539	-0.299041	52	20.30	0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 02:38:43	Shallow-water Multibeam Echosounder	alter course	57°58,673' N	000°27,673' W	124.1	6.7	293.0	57.977888	-0.461222	62	15.30	0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 03:30:15	Shallow-water Multibeam Echosounder	alter course	57°59,373' N	000°17,935' W	121.9	6.9	96.1	57.989551	-0.298913	83	19.00	0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 04:16:50	Shallow-water Multibeam Echosounder	alter course	57°59,064' N	000°27,520' W	126.3	7.0	271.1	57.984408	-0.458665	73	14.30	0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 05:05:20	Shallow-water Multibeam Echosounder	alter course	57°59,509' N	000°17,972' W	122.7	7.1	91.7	57.991812	-0.299535	83	15.80	0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 05:52:51	Shallow-water Multibeam Echosounder	alter course	57°59,213' N	000°27,640' W	120.2	6.8	286.7	57.986880	-0.460666	83	14.60	0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 06:41:22	Shallow-water Multibeam Echosounder	alter course	57°59,779' N	000°18,060' W	123.0	6.9	87.9	57.996314	-0.301007	94	16.50	0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 07:11:30	Shallow-water Multibeam Echosounder	profile end	58°00,428' N	000°23,029' W	123.8	7.0	271.3	58.007125	-0.383809	91	16.10	0.0	
MSM63_1 7-1	2017-05-20 07:11:48	Shallow-water Multibeam Echosounder	inform ation	58°00,430' N	000°23,092' W	124.3	6.6	281.3	58.007175	-0.384868	89	15.90	0.0	Unterbrechung CTD
MSM63_1 8-1	2017-05-20 07:23:52	CTD	in the water	58°00,428' N	000°23,676' W	124.0	0.2	20.5	58.007132	-0.394593	91	17.00	EL1	3.0
MSM63_1 8-1	2017-05-20 07:37:14	CTD	max depth/ on ground	58°00,432' N	000°23,677' W	123.8	0.0	36.5	58.007199	-0.394625	93	18.00	EL1	118.0
MSM63_1 8-1	2017-05-20 07:52:17	CTD	on deck	58°00,433' N	000°23,678' W	124.2	0.1	294.2	58.007210	-0.394634	90	17.30	0.0	
MSM63_1 7-1	2017-05-20 08:01:08	Shallow-water Multibeam Echosounder	profile start	58°00,434' N	000°22,955' W	124.2	3.0	254.9	58.007241	-0.382576	71	16.40	0.0	v=7kn, Kurs 270°
MSM63_1 7-1	2017-05-20 08:22:36	Shallow-water Multibeam Echosounder	alter course	58°00,428' N	000°27,480' W	122.9	6.9	273.2	58.007133	-0.458007	91	19.00	0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 09:15:21	Shallow-water Multibeam Echosounder	alter course	57°59,646' N	000°17,916' W	122.9	6.9	91.2	57.994105	-0.298608	110	20.00	0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 09:38:50	Shallow-water Multibeam Echosounder	alter course	58°00,164' N	000°21,912' W	123.9	7.1	268.8	58.002734	-0.365202	121	16.80	0.0	Kurs 090°

MSM63_1 7-1	2017-05-20 10:01:11	Shallow-water Multibeam Echosounder	alter course	57°59,912' N	000°17,988' W	122.6	7.1	86.4	57.998539	-0.299800	136	19.50		C.0	Kurs 270°
MSM63_1 7-1	2017-05-20 10:23:10	Shallow-water Multibeam Echosounder	profile end	58°00,303' N	000°21,742' W	123.6	6.0	272.4	58.005048	-0.362369	139	17.30		0.0	
MSM63_1 7-1	2017-05-20 10:23:18	Shallow-water Multibeam Echosounder	informa tion	58°00,303' N	000°21,767' W	123.7	6.0	272.6	58.005058	-0.362777	139	17.30		C.0	Unterbrechung CTD
MSM63_1 9-1	2017-05-20 10:23:29	CTD	in the water	58°00,305' N	000°21,800' W	123.7	5.9	274.8	58.005076	-0.363336	139	17.30		0.0	
MSM63_1 9-1	2017-05-20 10:47:54	CTD	max depth/ on ground	58°00,317' N	000°22,313' W	122.9	0.1	20.6	58.005279	-0.371881	163	17.10	EL1	117.0	
MSM63_1 9-1	2017-05-20 11:03:51	CTD	on deck	58°00,316' N	000°22,313' W	123.4	0.0	35.4	58.005268	-0.371891	179	17.00	EL1	-14.0	
MSM63_1 7-1	2017-05-20 11:06:29	Shallow-water Multibeam Echosounder	profile start	58°00,318' N	000°22,294' W	123.3	1.0	103.7	58.005303	-0.371564	179	18.20		C.0	v=7kn, Kurs 090°
MSM63_1 7-1	2017-05-20 11:32:02	Shallow-water Multibeam Echosounder	alter course	58°00,037' N	000°17,821' W	122.2	6.6	96.2	58.000617	-0.297025	175	19.60		C.0	Kurs 270°
MSM63_1 7-1	2017-05-20 12:00:36	Shallow-water Multibeam Echosounder	profile end	58°00,115' N	000°22,147' W	123.2	4.5	220.5	58.001921	-0.369119	176	22.40		0.0	
MSM63_1 7-1	2017-05-20 12:00:57	Shallow-water Multibeam Echosounder	informa tion	58°00,095' N	000°22,175' W	122.3	4.2	210.2	58.001584	-0.369580	174	22.50		C.0	Unterbrechung f· CTD
MSM63_2 0-1	2017-05-20 12:12:38	CTD	in the water	57°59,902' N	000°22,304' W	122.4	0.1	324.2	57.998371	-0.371737	171	21.90	EL1	7.0	
MSM63_2 0-1	2017-05-20 12:25:15	CTD	max depth/ on ground	57°59,903' N	000°22,305' W	122.9	0.1	9.2	57.998388	-0.371758	178	23.80	EL1	116.0	
MSM63_2 0-1	2017-05-20 12:41:24	CTD	on deck	57°59,902' N	000°22,303' W	122.8	0.0	321.1	57.998370	-0.371720	190	28.20	EL1	0.0	
MSM63_1 7-1	2017-05-20 13:06:51	Shallow-water Multibeam Echosounder	profile start	58°00,468' N	000°17,669' W	124.2	7.7	344.8	58.007808	-0.294490	196	29.70		C.0	v= 7kn Kurs 270°
MSM63_1 7-1	2017-05-20 13:53:13	Shallow-water Multibeam Echosounder	profile end	58°00,588' N	000°27,709' W	122.5	8.0	282.4	58.009798	-0.461824	188	33.50		0.0	
MSM63_1 7-1	2017-05-20 13:53:21	Shallow-water Multibeam Echosounder	informa tion	58°00,592' N	000°27,738' W	122.4	8.2	287.1	58.009874	-0.462306	186	32.70		C.0	Unterbrechung f· CTD
MSM63_2 1-1	2017-05-20 14:06:25	CTD	in the water	58°01,047' N	000°27,837' W	121.8	0.1	297.1	58.017443	-0.463946	194	29.90	EL1	1.0	

MSM63_2 1-1	2017-05-20 14:23:00	CTD	max depth/ on ground	58°01,047' N	000°27,838' W	121.5	0.0	98.4	58.017443	-0.463959	191	29.70	EL1	94.0	
MSM63_2 1-1	2017-05-20 14:34:12	CTD	on deck	58°01,047' N	000°27,837' W	121.3	0.1	0.8	58.017448	-0.463956	188	31.30	EL1	-14.0	
MSM63_1 7-1	2017-05-20 14:38:18	Shallow-water Multibeam Echosounder	profile start	58°01,009' N	000°27,814' W	121.9	3.2	124.7	58.016824	-0.463560	199	27.50		0.0	v=7kn Kurs 090°
MSM63_1 7-1	2017-05-20 15:23:42	Shallow-water Multibeam Echosounder	alter course	58°01,012' N	000°17,972' W	124.0	7.1	97.7	58.016861	-0.299541	191	28.40		0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 16:11:24	Shallow-water Multibeam Echosounder	alter course	58°00,713' N	000°27,486' W	120.8	7.0	264.5	58.011877	-0.458106	182	27.70		0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 17:00:10	Shallow-water Multibeam Echosounder	alter course	58°01,151' N	000°18,000' W	125.6	6.6	93.2	58.019184	-0.299992	184	24.60		0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 17:47:45	Shallow-water Multibeam Echosounder	alter course	58°00,858' N	000°27,471' W	122.2	7.0	266.1	58.014301	-0.457858	175	26.60		0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 18:37:51	Shallow-water Multibeam Echosounder	alter course	58°01,559' N	000°18,024' W	124.9	6.9	91.9	58.025976	-0.300399	178	24.40		0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 19:25:31	Shallow-water Multibeam Echosounder	alter course	58°01,288' N	000°27,509' W	121.7	6.7	269.0	58.021468	-0.458488	172	20.90		0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 20:13:32	Shallow-water Multibeam Echosounder	alter course	58°01,700' N	000°18,023' W	125.9	7.0	88.3	58.028336	-0.300389	166	21.70		0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 21:01:17	Shallow-water Multibeam Echosounder	alter course	58°01,412' N	000°27,477' W	122.9	7.0	270.5	58.023534	-0.457946	165	20.10		0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 21:52:02	Shallow-water Multibeam Echosounder	alter course	58°02,117' N	000°18,029' W	126.7	7.0	92.6	58.035289	-0.300490	164	19.80		0.0	Kurs 270°
MSM63_1 7-1	2017-05-20 22:40:01	Shallow-water Multibeam Echosounder	alter course	58°01,827' N	000°27,493' W	121.4	7.1	272.4	58.030447	-0.458209	160	18.40		0.0	Kurs 090°
MSM63_1 7-1	2017-05-20 23:29:01	Shallow-water Multibeam Echosounder	alter course	58°02,251' N	000°17,929' W	125.3	6.9	99.8	58.037513	-0.298816	166	16.60		0.0	Kurs 270°
MSM63_1 7-1	2017-05-21 00:16:02	Shallow-water Multibeam Echosounder	alter course	58°01,963' N	000°27,563' W	122.2	7.0	262.5	58.032721	-0.459391	170	17.30		0.0	Kurs 090°
MSM63_1 7-1	2017-05-21 00:48:04	Shallow-water Multibeam Echosounder	alter course	58°00,307' N	000°23,907' W	122.9	7.0	92.5	58.005113	-0.398452	184	16.70		0.0	Kurs 270°

MSM63_1 7-1	2017-05-21 01:08:45	Shallow-water Multibeam Echosounder	alter course	58°00,013' N	000°27,590' W	119.7	7.0	271.8	58.000217	-0.459841	174	17.30	C.0	Kurs 090°
MSM63_1 7-1	2017-05-21 01:32:49	Shallow-water Multibeam Echosounder	alter course	58°00,164' N	000°24,017' W	123.7	7.1	91.6	58.002726	-0.400285	181	16.50	0.0	Kurs 270°
MSM63_1 7-1	2017-05-21 01:55:37	Shallow-water Multibeam Echosounder	profile end	57°59,883' N	000°27,946' W	117.9	6.7	261.7	57.998057	-0.465775	172	16.50	0.0	
MSM63_1 5-1	2017-05-21 01:55:47	CTD	inform ation	57°59,880' N	000°27,981' W	117.8	6.7	253.6	57.997992	-0.466355	172	16.50	0.0	
MSM63_2 3-1	2017-05-21 02:03:41	Parasound	profile start	58°00,003' N	000°26,961' W	124.2	8.0	62.2	58.000048	-0.449348	178	16.00	C.0	v=7kn Kurs 073°
MSM63_2 3-1	2017-05-21 04:08:27	Parasound	profile end	58°04,305' N	000°00,701' W	133.0	7.0	71.8	58.071743	-0.011686	184	14.90	0.0	
MSM63_2 4-1	2017-05-21 07:11:01	Shallow-water Multibeam Echosounder	profile start	58°15,760' N	001°02,797' E	150.4	6.4	352.1	58.262670	1.046610	230	13.30	C.0	v=7kn, Kurs 000°
MSM63_2 4-1	2017-05-21 07:44:46	Shallow-water Multibeam Echosounder	alter course	58°19,634' N	001°02,822' E	149.3	7.0	360.0	58.327231	1.047042	195	10.20	0.0	Kurs 180°
MSM63_2 4-1	2017-05-21 08:23:08	Shallow-water Multibeam Echosounder	alter course	58°15,950' N	001°03,744' E	149.0	7.0	181.0	58.265833	1.062408	185	9.40	C.0	Kurs 000°
MSM63_2 4-1	2017-05-21 09:00:40	Shallow-water Multibeam Echosounder	alter course	58°19,710' N	001°03,057' E	148.1	7.1	0.2	58.328498	1.050953	192	12.40	0.0	Kurs 180°
MSM63_2 4-1	2017-05-21 09:38:18	Shallow-water Multibeam Echosounder	alter course	58°15,943' N	001°03,970' E	148.6	7.0	179.7	58.265715	1.066160	199	12.70	C.0	Kurs 000°
MSM63_2 4-1	2017-05-21 10:15:36	Shallow-water Multibeam Echosounder	alter course	58°19,694' N	001°03,267' E	148.2	7.0	1.4	58.328231	1.054451	207	13.60	0.0	Kurs 180°
MSM63_2 4-1	2017-05-21 10:54:24	Shallow-water Multibeam Echosounder	alter course	58°15,916' N	001°04,199' E	148.6	7.0	179.5	58.265267	1.069985	220	14.60	C.0	Kurs 000°
MSM63_2 4-1	2017-05-21 11:35:11	Shallow-water Multibeam Echosounder	profile end	58°20,152' N	001°03,511' E	146.7	7.4	350.3	58.335869	1.058522	216	11.90	0.0	
MSM63_2 5-1	2017-05-21 12:25:25	CTD	in the water	58°16,915' N	000°58,247' E	169.3	0.1	348.4	58.281909	0.970782	201	12.70	EL1	3.0
MSM63_2 5-1	2017-05-21 12:42:36	CTD	max depth/ on ground	58°16,914' N	000°58,248' E	169.5	0.0	29.0	58.281898	0.970802	204	13.80	EL1	163.0
MSM63_2 5-1	2017-05-21 13:02:31	CTD	on deck	58°16,915' N	000°58,245' E	169.5	0.1	148.6	58.281914	0.970746	197	13.80	EL1	-13.0
MSM63_2 6-1	2017-05-21 13:50:48	CTD	in the water	58°17,091' N	000°57,982' E	153.3	0.1	351.0	58.284856	0.966368	203	12.10	EL1	8.0

MSM63_2 6-1	2017-05-21 14:04:32	CTD	max depth/ on ground	58°17,091' N	000°57,983' E	153.4	0.0	181.9	58.284848	0.966384	201	11.70	EL1	146.0	
MSM63_2 6-1	2017-05-21 14:23:36	CTD	on deck	58°17,091' N	000°57,982' E	153.4	0.0	94.1	58.284843	0.966371	205	11.30	EL1	-13.0	
MSM63_2 7-1	2017-05-21 14:43:47	Shallow-water Multibeam Echosounder	profile start	58°17,048' N	001°00,497' E	151.4	6.7	173.1	58.284134	1.008277	208	12.30		0.0	v=7kn Kurs 180°
MSM63_2 7-1	2017-05-21 15:07:18	Shallow-water Multibeam Echosounder	alter course	58°14,380' N	001°00,524' E	151.9	6.9	179.8	58.239661	1.008730	190	9.00		0.0	Kurs 000°
MSM63_2 7-1	2017-05-21 16:01:29	Shallow-water Multibeam Echosounder	alter course	58°20,061' N	001°01,426' E	148.6	6.9	0.2	58.334357	1.023763	183	10.40		0.0	Kurs 180°
MSM63_2 7-1	2017-05-21 16:54:56	Shallow-water Multibeam Echosounder	informa tion	58°14,402' N	001°00,755' E	151.9	7.0	180.9	58.240035	1.012589	193	13.70		0.0	Kurs 000°
MSM63_2 7-1	2017-05-21 17:49:49	Shallow-water Multibeam Echosounder	alter course	58°20,094' N	001°01,632' E	149.0	6.8	358.2	58.334894	1.027200	188	12.80		0.0	Kurs 180°
MSM63_2 7-1	2017-05-21 18:43:41	Shallow-water Multibeam Echosounder	alter course	58°14,428' N	001°00,991' E	152.4	7.0	180.1	58.240463	1.016510	192	13.00		0.0	Kurs 000°
MSM63_2 7-1	2017-05-21 19:38:26	Shallow-water Multibeam Echosounder	alter course	58°20,069' N	001°01,847' E	148.9	7.0	0.8	58.334478	1.030780	179	10.00		0.0	Kurs 180°
MSM63_2 7-1	2017-05-21 20:31:05	Shallow-water Multibeam Echosounder	alter course	58°14,421' N	001°01,210' E	152.3	6.9	179.4	58.240350	1.020174	170	14.10		0.0	Kurs 000°
MSM63_2 7-1	2017-05-21 21:24:58	Shallow-water Multibeam Echosounder	alter course	58°20,081' N	001°02,074' E	148.6	7.0	359.0	58.334689	1.034574	173	12.80		0.0	Kurs 180°
MSM63_2 7-1	2017-05-21 22:05:17	Shallow-water Multibeam Echosounder	alter course	58°15,744' N	001°02,489' E	150.2	6.9	181.2	58.262407	1.041476	170	13.60		0.0	Kurs 000°
MSM63_2 7-1	2017-05-21 22:48:19	Shallow-water Multibeam Echosounder	alter course	58°20,077' N	001°02,277' E	148.5	7.1	0.0	58.334621	1.037951	169	12.60		0.0	Kurs 180°
MSM63_2 7-1	2017-05-21 23:30:08	Shallow-water Multibeam Echosounder	profile end	58°15,693' N	001°02,307' E	151.3	8.9	247.8	58.261556	1.038453	169	12.00		0.0	
MSM63_2 8-1	2017-05-22 03:20:16	Shallow-water Multibeam Echosounder	profile start	57°59,916' N	000°17,623' W	122.6	7.0	261.3	57.998600	-0.293723	156	16.70		0.0	v=7kn, Kurs 270°
MSM63_2 8-1	2017-05-22 03:39:56	Shallow-water Multibeam Echosounder	alter course	57°59,920' N	000°21,909' W	122.3	7.1	270.7	57.998671	-0.365153	162	16.30		0.0	Kurs 090°

MSM63_2 8-1	2017-05-22 04:03:49	Shallow-water Multibeam Echosounder	alter course	58°00,350' N	000°17,966' W	123.3	6.9	88.6	58.005834	-0.299426	161	15.80	C.0	Kurs 270°
MSM63_2 8-1	2017-05-22 04:53:49	Shallow-water Multibeam Echosounder	alter course	58°00,777' N	000°27,524' W	122.5	7.0	270.6	58.012955	-0.458729	159	16.80	0.0	Kurs 090°
MSM63_2 8-1	2017-05-22 05:44:01	Shallow-water Multibeam Echosounder	alter course	58°00,619' N	000°17,696' W	124.3	6.5	16.8	58.010323	-0.294937	171	15.60	C.0	Kurs 270°
MSM63_2 8-1	2017-05-22 06:31:47	Shallow-water Multibeam Echosounder	alter course	58°00,921' N	000°27,477' W	122.7	6.9	271.4	58.015352	-0.457954	160	14.80	0.0	Kurs 090°
MSM63_2 8-1	2017-05-22 07:22:09	Shallow-water Multibeam Echosounder	profile end	58°00,670' N	000°17,598' W	124.9	7.0	89.7	58.011162	-0.293306	166	17.80	0.0	
MSM63_2 9-1	2017-05-22 07:40:37	CTD	in the water	57°59,654' N	000°18,148' W	123.1	0.1	290.0	57.994234	-0.302470	159	17.20	EL1	0.0
MSM63_2 9-1	2017-05-22 07:53:34	CTD	max depth/ on ground	57°59,654' N	000°18,148' W	123.2	0.0	181.7	57.994237	-0.302459	157	17.30	EL1	115.0
MSM63_2 9-1	2017-05-22 08:05:52	CTD	on deck	57°59,654' N	000°18,148' W	123.0	0.0	155.6	57.994235	-0.302467	162	17.20	EL1	0.0
MSM63_3 0-1	2017-05-22 08:19:51	Parasound	profile start	57°59,656' N	000°18,132' W	123.1	6.9	179.9	57.994270	-0.302201	152	17.50	C.0	v=7kn, Kurs 180°
MSM63_3 0-1	2017-05-22 08:36:34	Parasound	profile end	57°57,726' N	000°18,148' W	119.2	6.9	181.5	57.962101	-0.302471	146	17.00	0.0	
MSM63_3 0-1	2017-05-22 08:36:42	Parasound	inform ation	57°57,711' N	000°18,149' W	119.0	6.9	181.2	57.961849	-0.302480	146	17.00	C.0	Unterbrechung CTD
MSM63_3 1-1	2017-05-22 08:50:20	CTD	in the water	57°57,770' N	000°18,161' W	119.6	0.1	145.2	57.962826	-0.302683	147	17.10	EL1	2.0
MSM63_3 1-1	2017-05-22 09:03:28	CTD	max depth/ on ground	57°57,770' N	000°18,161' W	119.3	0.0	34.2	57.962827	-0.302692	148	18.00	EL1	113.0
MSM63_3 1-1	2017-05-22 09:17:37	CTD	on deck	57°57,769' N	000°18,161' W	119.6	0.1	133.0	57.962823	-0.302689	142	18.60	EL1	-13.0
MSM63_3 0-1	2017-05-22 09:29:36	Parasound	profile start	57°57,738' N	000°18,130' W	119.7	6.8	270.9	57.962297	-0.302174	153	21.90	C.0	v=7kn, Kurs 270°
MSM63_3 0-1	2017-05-22 09:52:00	Parasound	profile end	57°57,748' N	000°23,087' W	119.1	7.0	271.3	57.962464	-0.384787	150	20.70	0.0	
MSM63_3 0-1	2017-05-22 09:52:53	Parasound	inform ation	57°57,759' N	000°23,272' W	119.3	6.0	296.6	57.962649	-0.387871	144	21.00	C.0	Unterbrechung CTD
MSM63_3 2-1	2017-05-22 10:01:24	CTD	in the water	57°57,767' N	000°23,100' W	119.2	0.1	129.6	57.962777	-0.384997	158	21.70	EL1	-11.0
MSM63_3 2-1	2017-05-22 10:15:17	CTD	max depth/ on ground	57°57,768' N	000°23,102' W	119.1	0.0	235.1	57.962797	-0.385027	152	18.90	EL1	113.0

MSM63_3 2-1	2017-05-22 10:26:49	CTD	on deck	57°57,767' N 000°23,102' W	119.1	0.0	10.7	57.962791	-0.385028	155	17.50	EL1	-13.0	
MSM63_3 0-1	2017-05-22 10:38:39	Parasound	profile start	57°57,747' N 000°23,057' W	119.0	6.1	268.6	57.962445	-0.384285	150	19.00		0.0	v=7kn, Kurs 270°
MSM63_3 0-1	2017-05-22 10:58:45	Parasound	profile end	57°57,736' N 000°27,503' W	115.1	7.2	273.4	57.962258	-0.458384	149	21.60		0.0	
MSM63_3 0-1	2017-05-22 10:58:55	Parasound	inform ation	57°57,736' N 000°27,540' W	115.4	7.1	272.8	57.962270	-0.459003	149	21.50		0.0	Unterbrechung CTD
MSM63_3 3-1	2017-05-22 11:12:39	CTD	in the water	57°57,758' N 000°27,568' W	115.9	0.0	227.5	57.962640	-0.459459	145	20.10	EL1	10.0	
MSM63_3 3-1	2017-05-22 11:24:54	CTD	max depth/ on ground	57°57,758' N 000°27,566' W	115.8	0.1	70.4	57.962639	-0.459432	147	20.10	EL1	109.0	
MSM63_3 3-1	2017-05-22 11:38:55	CTD	on deck	57°57,758' N 000°27,566' W	115.6	0.0	194.1	57.962630	-0.459441	144	20.40	EL1	-13.0	
MSM63_3 0-1	2017-05-22 11:48:34	Parasound	profile start	57°57,727' N 000°27,555' W	115.3	5.8	4.0	57.962111	-0.459247	142	19.10		0.0	v=7kn Kurs:000°
MSM63_3 0-1	2017-05-22 12:06:40	Parasound	profile end	57°59,808' N 000°27,626' W	121.0	6.8	359.4	57.996799	-0.460438	144	18.60		0.0	
MSM63_3 0-1	2017-05-22 12:06:45	Parasound	inform ation	57°59,817' N 000°27,626' W	120.9	6.9	359.6	57.996958	-0.460441	144	18.60		0.0	Unterbrechung CTD
MSM63_3 4-1	2017-05-22 12:20:44	CTD	in the water	57°59,816' N 000°27,641' W	121.0	0.0	32.0	57.996941	-0.460681	145	20.40	EL1	10.0	
MSM63_3 4-1	2017-05-22 12:32:09	CTD	max depth/ on ground	57°59,815' N 000°27,640' W	120.5	0.0	227.2	57.996922	-0.460671	153	20.70	EL1	115.0	
MSM63_3 4-1	2017-05-22 12:42:30	CTD	on deck	57°59,816' N 000°27,639' W	120.9	0.1	56.9	57.996934	-0.460657	152	21.40	EL1	-11.0	
MSM63_3 0-1	2017-05-22 12:50:11	Parasound	profile start	57°59,825' N 000°27,215' W	122.3	5.1	94.0	57.997083	-0.453583	154	21.30		0.0	v=7kn Kurs 090°
MSM63_3 0-1	2017-05-22 13:04:50	Parasound	profile end	57°59,831' N 000°24,109' W	122.3	7.0	88.4	57.997180	-0.401815	156	23.50		0.0	
MSM63_3 0-1	2017-05-22 13:17:46	Parasound	inform ation	57°59,860' N 000°24,126' W	122.6	0.1	53.5	57.997660	-0.402099	152	21.40	EL1	-11.0	Unterbrechung CTD
MSM63_3 5-1	2017-05-22 13:20:27	CTD	in the water	57°59,860' N 000°24,124' W	122.7	0.0	124.9	57.997670	-0.402059	150	20.30	EL1	4.0	
MSM63_3 5-1	2017-05-22 13:30:59	CTD	max depth/ on ground	57°59,860' N 000°24,124' W	122.2	0.0	170.8	57.997671	-0.402060	153	20.10	EL1	116.0	
MSM63_3 5-1	2017-05-22 13:44:02	CTD	on deck	57°59,860' N 000°24,125' W	122.1	0.0	8.7	57.997668	-0.402076	156	19.30	EL1	-14.0	
MSM63_3 0-1	2017-05-22 13:53:43	Parasound	profile start	57°59,849' N 000°24,110' W	122.2	5.8	9.0	57.997489	-0.401834	156	18.70		0.0	v=7kn Kurs 012°
MSM63_3 0-1	2017-05-22 14:08:42	Parasound	profile end	58°01,652' N 000°23,408' W	123.7	7.3	11.0	58.027526	-0.390140	165	17.10		0.0	

MSM63_3 0-1	2017-05-22 14:10:50	Parasound	inform ation	58°01,869' N	000°23,360' W	123.6	2.6	328.9	58.031153	-0.389326	176	18.80	0.0	
MSM63_3 6-1	2017-05-22 14:24:27	CTD	in the water	58°01,717' N	000°23,386' W	123.6	0.1	269.5	58.028615	-0.389773	160	18.60	EL1	10.0
MSM63_3 6-1	2017-05-22 14:36:29	CTD	max depth/ on ground	58°01,716' N	000°23,387' W	123.7	0.0	216.0	58.028603	-0.389786	157	19.10	EL1	117.0
MSM63_3 6-1	2017-05-22 14:42:09	CTD	on deck	58°01,716' N	000°23,387' W	123.7	0.0	106.8	58.028600	-0.389788	155	19.80	EL1	-12.0
MSM63_3 7-1	2017-05-22 15:27:50	CTD	at surface	57°56,774' N	000°15,968' W	114.9	0.1	221.2	57.946229	-0.266131	162	18.40	EL1	-2.0
MSM63_3 7-1	2017-05-22 15:38:58	CTD	max depth/ on ground	57°56,773' N	000°15,968' W	114.8	0.0	211.6	57.946217	-0.266139	153	18.50	EL1	109.0
MSM63_3 7-1	2017-05-22 15:45:38	CTD	on deck	57°56,774' N	000°15,971' W	114.7	0.1	272.9	57.946226	-0.266176	162	18.50	EL1	-14.0
MSM63_3 8-1	2017-05-22 16:29:16	Shallow-water Multibeam Echosounder	profile start	58°00,299' N	000°27,424' W	120.4	6.2	198.7	58.004982	-0.457065	147	24.20	0.0	v=7kn, Kurs 180°
MSM63_3 8-1	2017-05-22 16:47:56	Shallow-water Multibeam Echosounder	alter course	57°58,109' N	000°27,469' W	113.4	7.2	179.6	57.968483	-0.457811	148	22.70	0.0	Kurs 000°
MSM63_3 8-1	2017-05-22 17:10:17	Shallow-water Multibeam Echosounder	alter course	58°00,150' N	000°28,162' W	117.7	7.0	359.3	58.002501	-0.469360	147	23.20	0.0	Kurs 180°
MSM63_3 8-1	2017-05-22 17:32:30	Shallow-water Multibeam Echosounder	alter course	57°58,097' N	000°27,703' W	113.3	7.0	179.5	57.968284	-0.461722	145	23.80	0.0	Kurs 000°
MSM63_3 8-1	2017-05-22 17:54:41	Shallow-water Multibeam Echosounder	alter course	58°00,114' N	000°28,372' W	117.7	6.8	0.1	58.001904	-0.472867	149	23.80	0.0	Kurs 180°
MSM63_3 8-1	2017-05-22 18:17:02	Shallow-water Multibeam Echosounder	alter course	57°58,072' N	000°27,919' W	114.7	7.0	179.0	57.967871	-0.465309	153	25.10	0.0	Kurs 000°
MSM63_3 8-1	2017-05-22 18:41:16	Shallow-water Multibeam Echosounder	profile end	58°00,294' N	000°28,596' W	116.7	6.9	359.4	58.004905	-0.476594	149	21.10	0.0	
MSM63_3 9-1	2017-05-22 19:12:15	Parasound	profile start	58°03,396' N	000°22,009' W	125.2	8.4	178.0	58.056603	-0.366814	141	24.30	0.0	v=7,5kn, Kurs 180°
MSM63_3 9-1	2017-05-22 19:52:00	Parasound	alter course	57°58,432' N	000°21,928' W	120.0	7.6	176.6	57.973870	-0.365458	138	24.20	0.0	Kurs 360°
MSM63_3 9-1	2017-05-22 20:33:45	Parasound	alter course	58°03,265' N	000°21,569' W	125.4	7.5	2.6	58.054411	-0.359479	139	22.00	0.0	Kurs 180°
MSM63_3 9-1	2017-05-22 21:15:33	Parasound	alter course	57°58,467' N	000°21,032' W	120.8	7.6	181.2	57.974450	-0.350534	149	23.50	0.0	Kurs 360°
MSM63_3 9-1	2017-05-22 21:57:01	Parasound	alter course	58°03,258' N	000°20,618' W	125.9	7.5	359.3	58.054292	-0.343639	148	23.90	0.0	Kurs 180°

MSM63_3 9-1	2017-05-22 22:36:51	Parasound	alter course	57°58,744' N	000°20,099' W	121.1	7.5	180.8	57.979074	-0.334989	151	24.90	0.0	Kurs 270°
MSM63_3 9-1	2017-05-22 22:50:49	Parasound	alter course	57°58,867' N	000°22,106' W	120.3	8.6	267.9	57.981117	-0.368430	165	20.60	0.0	Kurs 090°
MSM63_3 9-1	2017-05-22 23:06:14	Parasound	alter course	57°59,404' N	000°19,785' W	122.6	7.6	89.8	57.990061	-0.329756	165	22.30	0.0	Kurs 270°
MSM63_3 9-1	2017-05-22 23:21:04	Parasound	alter course	57°59,875' N	000°22,053' W	122.2	7.3	271.7	57.997924	-0.367558	155	25.00	0.0	Kurs 359°
MSM63_3 9-1	2017-05-22 23:32:00	Parasound	alter course	58°01,178' N	000°22,372' W	124.7	7.7	357.6	58.019631	-0.372867	156	18.70	0.0	Kurs 090°
MSM63_3 9-1	2017-05-22 23:43:57	Parasound	alter course	58°01,361' N	000°19,779' W	124.8	7.5	89.2	58.022677	-0.329649	170	23.60	0.0	Kurs 270°
MSM63_3 9-1	2017-05-23 00:00:11	Parasound	alter course	58°01,912' N	000°22,209' W	125.4	7.4	291.6	58.031863	-0.370152	160	20.80	0.0	Kurs 090°
MSM63_3 9-1	2017-05-23 00:15:12	Parasound	alter course	58°02,448' N	000°19,779' W	125.9	7.5	91.6	58.040806	-0.329645	182	21.30	0.0	Kurs 270°
MSM63_3 9-1	2017-05-23 00:32:23	Parasound	profile end	58°02,919' N	000°22,512' W	124.3	7.6	261.9	58.048651	-0.375201	194	19.90	0.0	