

Vermilion Exploration and Production Ireland Ltd

Corrib Marine Mammal Observations

Corrib Field Inspection and Maintenance Survey 2020





GENERAL NOTES

Title	e: (Corrib	Marine	Mammal	Obser	vations:	Field	Inspection	and	Maintenand	ce Survey
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2020

Client: Vermilion E&P Ireland Ltd.

Date: 25 June 2020

Office: Helsby

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1 INTRODUCTION

AMSIS has been engaged by Vermilion Exploration and Production Ireland Ltd (VEPIL) to provide marine mammal observation services during the inspection of the offshore Corrib field including the offshore gas pipeline and associated facilities.

Marine Mammal Observers (MMOs) are required to be present on vessels at the commencement of noise-generating activities (e.g. geophysical survey and dredging operations) under the code of practice agreed between VEPIL and National Parks and Wildlife Service (NPWS). Records are made of any marine mammals seen before or during inspection operations (which are delayed if marine mammals are sighted within 500m of the noise-generating vessel before it starts work), and reported monthly.

This report presents the survey activity and marine mammal observations during the Corrib field inspection survey undertaken aboard the offshore survey vessel *Edda Sun*, within Irish blocks 18,19 and 20, from 07 May to 02 June 2020. It was conducted on behalf of VEPIL and represents dedicated monitoring during the survey period.

This report covers the offshore Corrib Field and offshore section of the pipeline route to approximately KP80; The Corrib Marine Mammal Observations: Inshore Pipeline Inspection Survey 2020 report covers the inshore section of the pipeline route. The series of reports will be submitted to the Department of Communications, Climate Action and Environment (DCCAE) and copied to NPWS.



2 RECORDS

2.1 Summary

From 07 May until 02 June 2020, daily watches were conducted, weather permitting, for marine mammals by one MMO aboard the offshore survey vessel, *Edda Sun*, which conducted inspection operations at the offshore Corrib Gas field and along the offshore pipeline, including on five occasions within the Broadhaven Bay Special Area of Conservation (SAC). These operations utilised a multi-beam echo sounder (MBES) and Ultra Short Baseline (USBL) systems to position the Workclass remotely operated vehicle (WROV), the Lynx ROV, and the vessel. Records from marine mammal observations during this period are presented in Appendix 1.

Previous survey sightings from the corresponding months of preceding years are included for historical context only, as the durations, locations and hours of effort vary between months and years. No survey took place in 2019. A selection of the best project photographs will be provided in the final (annual) report

2.2 Sightings

During May 2020, there were a total of thirty-two (32) marine mammal sightings comprising at least six (6) different species: common dolphin (*Delphinus delphis*), minke whale (*Balaenoptera acutorostrata*), sei whale (*Balaenoptera borealis*), fin whale (*Balaenoptera physalus*), pilot whale (*Globicephala melas*), unidentified dolphin, unidentified whale, grey seal (*Halichoerus grypus*), and basking shark (*Cetorhinus maximus*); and ninety-eight (98) individuals. There were zero (0) sightings in Broadhaven Bay SAC, twenty-six (26) at the offshore Corrib field, and six (6) elsewhere in Irish waters during transit. The sightings of the large baleen whales were often some distance from the vessel (1km to 1.5km), and these identifications are estimated from limited photos and observations of blows.

In previous years during May, effort at the offshore Corrib field resulted four (4) sightings in 2013. In Broadhaven Bay SAC, effort resulted in in twenty (20) sightings in 2016, six (6) sightings in 2015, four (4) sightings in 2010 and nine (9) sightings in 2009.

During June 2020, there were a total of nine (9) marine mammal sightings comprising three (3) different species: minke whale (*Balaenoptera acutorostrata*), sei whale (*Balaenoptera borealis*), unidentified whale and unidentified dolphin; and thirteen (13) individuals. There were zero (0) sightings in Broadhaven Bay Special Area of Conservation (SAC), nine (9) at the offshore Corrib field, and zero (0) elsewhere in Irish waters during transit.

In previous years during June, effort at the offshore Corrib field resulted in three (3) sightings in 2016, six (6) sightings in 2012 and 2013, and three (3) sightings in 2009. In Broadhaven Bay SAC, effort resulted in fourteen (14) sightings in 2017, thirty-three (33) sightings in 2015, twenty-four (24) sightings in 2013, six (6) sightings in in 2012, and one (1) sighting in 2011.



2.3 Mitigation

Of the 111 individuals sighted, zero (0) caused a delay to operations. No marine mammals were observed within the 500m mitigation zone during the dedicated 30-minute pre-shoot watch period. All sightings were observed during ongoing operations, and there was no requirement to suspend operations once commenced.

Due to the necessity to activate the USBL positioning system immediately on entering the water for safety, this system was operating throughout the inspection operations. This system was unable to be ramped up and was therefore broadcasting at maximum power from activation and no soft start procedure could be safely implemented. This is reflected in the Operations log form included in Appendix 1. In view of this there was no requirement to soft start the MBES system as this was always activated once the USBL system was in operation. After discussion with the online surveyor, however, it was agreed that power to the MBES system would be ramped up during the 20-minute period from deployment to reaching the seabed and positioning the WROV.



APPENDIX 1 - MARINE MAMMAL OBSERVATIONS (OFFSHORE INSPECTION SURVEY AND ENVIRONMENTAL MONITORING SURVEY- MAY 2020)



Summary of Marine Mammal Sightings in May and June 2020

Sightings	Date	Time at start of encounter (UTC)	Time at end of encounter (UTC)	Observer's/ operator's name	Position – degrees latitude	Position - minutes latitude	Position - degrees longitude	Position - minutes longitude	Water depth (metres)	Species or species group	Range of animal (metres)	Total number	Certainty of identification	Vessel activity	Mittigation required?
1	06/05/2020	6:23	6:25	First Officer	56	11.620	7	50.06	8 0.0	Common dolphin (Delphinus delphis)	5	2	Definite	Transit	n
2	06/05/2020	6.28	7:05	First Officer	56	11.620	7	50.06	8 0.0	Common dalphin (Delphinus delphis)	5	12	Definite	Transit	n
3	06/05/2020	7:20	7:30	First Officer	55	59.500	7	58.50	140.0	Unidentified whales	1000	6	Definite	Transit	п
4	06/05/2020	8:55	9:07	I Sm ith	55	48.360	8	8.74	112.5	Common dolphin (Delphinus delphis)	5	5	Definite	Transit	n
5	06/05/2020	10:10	10:18	I Sm ith	55	44.600	8	9.41	112.5	Common dalphin (Delphinus delphis)	5	10	Definite	Transit	n
6	06/05/2020	10:22	1038	I Sm ith	55	41.400	8	11.70	91.0	Common dolphin (Delphinus delphis)	5	10	Definite	Transit	п
7	19/05/2020	15.57	16:46	I Sm ith	54	20.51	11	3.20	3540	Grey seal (Halichoerus grypus)	100	1	Definite	Operational	n
8	19/05/2020	16:27	16-27	I Sm ith	54	20.51	11	3.20	3540	Unidentified whales	100	.1	Definite	Operational	n
9	21/05/2020	7:58	8:07	First Office/I smith	54	20.84	11	2.25	3540	Grey seal (Halichoerus grypus)	300	2	Definite	Operational	n
10	21/05/2020	8:33	8:59	First Office/I smith	54	20.84	11	2.27	3540	Grey seal (Halichoerus grypus)	150	1	Definite	Operational	n
11	21/05/2020	12:15	12:25	I Sm ith	54	30.94	.11	23.75	354.0	Grey seal (Halichoerus grypus)	300	21	Definite	Operational	n
12	23/05/2020	21:25	2130	NDuncon	54	28.01	8	25.14	2 6.0	Unidentified dolphins	30	8	Definite	Not operational	n
13	26/05/2020	22:00	22:05	2nd officer	54	27.84	9	44.35	8.5.0	Unidentified dolphins	100	5	Definite	Not operational	
1.4	27/05/2020	10:45	10:53	Capt/ I, Smith	54	20.10	.11	3.64	354.0	Grey seal (Halichberus grypus)	300	/1	Definite	Operational	n
15	27/05/2020	1400	14:05	Capt	54	1.12	11	1.91	3540	Unidentified whales	20	1	Definite	Operational	n
16	27/05/2020	14:53	1523	I Sm ith	54	1.12	11	1.91	354.0	Mink • Whale (Balaenop fera acutorostata)	20	1	Definite	Operational	n
17	28/05/2020	10:19	1030	I Sm ith	54	19.18	.11	4.28	354.0	Minke Whale (Balaenop tera a autoro stata)	150	21	Possible	Not operational	n
18	28/05/2020	12:48	12:53	I Sm ith	54	20.36	11	3.50	3540	Minke Whale (Balaenoptera aastorostata)	200	3	Possible	Operational	n
19	29/05/2020	6.05	6:14	I Sm ith	54	20.00	11	2.58	354.0	Sei whale (Balgenopfera boreali)	600	1	Possible	Not operational	n
20	29/05/2020	7:08	7:38	I Sm ith	54	20.00	11	2.58	3540	Fin Whale (Balaenoptera physalus)	700	1	Possible	Not operational	n
21	29/05/2020	12:48	12:50	First Officer/I Sm ith	54	19.94	11	430	3540	Bottlenose Dolphin (Tursiops fruncatus)	10	1	Possible	Operational	п
22	29/05/2020	15:08	1525	I Sm ith	54	20.34	11	5.05	3540	Mink e Whale (Balaenoptera acutorostata)	10	1	Definite	Operational	n
23	29/05/2020	15:40	16:16	I Sm ith	54	20.15	11	3.83	3540	Unidentified whales	1250	3	Possible.	Operational	n
24	30/05/2020	15:08	16:28	I Sm ith	54	20.33	11	3.53	354.0	Grey seal (Halichoerus grypus)	200	1	Definite	Operational	n
2.5	30/05/2020	20.30	20:40	2nd officer	54	20.30	11	3.50	354.0	Basking shark (Cetorhinus maximus)	200	21	Probable	Operational	n



Sightings	Date	Time at start of encounter (UTC)	Time at end of encounter (UTC)		Position - degrees latitude	Position - minutes latitude	Position - degrees longitude	Position - minutes longitude	Water depth (metres)	Species or species group	Range of animal (metres)	Total number	Certainty of identification	Vessel activity	Mittigation required?
26	31/05/2020	7:38	9:07	I Sm ith	54	21.31	11	1.07	3540	Pilot Whales (Globicephala melas).	700	6	Probable	Operational	n
27	31/05/2020	9.32	9:53	I Sm ith	54	21.30	11	1.26	3540	Minke Whale (Balaenop tera acutorostata)	700	1	Possible	Operational	n
28	31/05/2020	12:30	12,50	l Sm ith	54	51.44	10	1.27	3540	Unidentified Whales	700	4	Definite	Operational	n
29	31/05/2020	12:50	13.00	I Sm ith	54	20.59	10	1.26	3540	Unidentified Whales	1000	1	Definite	Operational	п
30	31/05/2020	12:58	14:10	I Sm ith	54	20.59	10	1.26	3540	Unidentified Whales	700	1	Definite	Operational	n
31	31/05/2020	13:50	1432	l Sm ith	54	21.49	10	59.05	3540	Unidentified Whales	1000	4	Definite	Operational	n
32	31/05/2020	12:00	12:10	5 Crowley	54	21.44	10	1.27	3540	Minke Whole (Balaenop fera acutoro stata)	5	1	Definite	Operational	п
33	01/06/2020	5.48	6:10	M. Purver	54	21.01	10	51.43	3540	Minke Whale (Balaenoptera aartorostata)	500	1	Possible	Operational	n
3.4	01/06/2020	630	6:35	I Sm ith	54	21.13	10	55.75	3540	Unidentified Dolphins	600	3	Definite	Not operational	n
3.5	01/06/2020	8:10	8:20	I Sm ith	54	21.17	10	59.08	3540	Minke Whole (Balaenop lera acutoro stata)	700	1	Possible	Operational	п
36	01/06/2020	8:45	9:05	I Sm ith	54	21.17	10	59.08	3540	Unidentified whales	700	1	Definite	Operational	n
37	01/06/2020	9.28	9:55	I Sm ith	54	21,50	10	58.77	3540	Minke Whole (Balaenop lera aarforosfafa)	200	1	Definite	Operational	n
38	01/06/2020	10:22	1035	I Sm ith	54	21.53	10	57.61	3540	Minke Whole (Balaenoptera aartorostata)	500	2	Possible	Operational	п
39	01/06/2020	10:45	12:05	I Sm ith	54	21.50	10	57.58	3540	Minke Whale (Balaenoptera aartorostata)	100	1	Definite	Operational	n
40	01/06/2020	15:10	1520	I Sm ith	54	19.17	10	27.38	126.0	Sei whole (Balaenopfera borealis)	1000	2	Possible	Not operational	n
41	01/06/2020	15:18	1520	I Sm ith	54	19.17	10	27.38	126.0	Minke Whale (Balaenoptera aastorostata)	200	1	Definite	Not operational	п

Field Notes

Sightings	Date	Species or species group	Range of animal (metres)	Total number	Vessel activity	Mitigation required?
1	06/05/2020	Common dolphin (Delphinus delphis)	5	2	Transit	n
2	06/05/2020	Common dolphin (Delphinus delphis)	5	12	Transit	n
3	06/05/2020	Unidentified whales	1000	6	Transit	n
4	06/05/2020	Common dolphin (Delphinus delphis)	5	5	Transit	n
5	06/05/2020	Common dolphin (Delphinus delphis)	5	10	Transit	n
6	06/05/2020	Common dolphin (Delphinus delphis)	5	10	Transit	n
7	19/05/2020	Grey seal (Halichoerus grypus)	100	1	Operational	n
8	19/05/2020	Unidentified whales	100	1	Operational	n



Sightings	Date	Species or species group	Range of animal (metres)	Total number	Vessel activity	Mitigation required?
9	21/05/2020	Grey seal (Halichoerus grypus)	300	2	Operational	n
10	21/05/2020	Grey seal (Halichoerus grypus)	150	1	Operational	n
11	21/05/2020	Grey seal (Halichoerus grypus)	300	1	Operational	n
12	23/05/2020	Unidentified dolphins	30	8	Not operational	n
13	26/05/2020	Unidentified dolphins	100	5	Not operational	
14	27/05/2020	Grey seal (Halichoerus grypus)	300	1	Operational	n
15	27/05/2020	Unidentified whales	20	1	Operational	n
16	27/05/2020	Minke Whale (Balaenoptera acutorostrata)	20	1	Operational	n
17	28/05/2020	Minke Whale (Balaenoptera acutorostrata)	150	1	Not operational	n
18	28/05/2020	Minke Whale (Balaenoptera acutorostrata)	200	1	Operational	n
19	29/05/2020	Sei whale (Balaenoptera borealis)	600	1	Not operational	n
20	29/05/2020	Fin Whale (Balaenoptera physalus)	700	1	Not operational	n
21	29/05/2020	Bottlenose Dolphin (Tursiops truncatus)	10	1	Operational	n
22	29/05/2020	Minke Whale (Balaenoptera acutorostrata)	10	1	Operational	n
23	29/05/2020	Unidentified whales	1250	3	Operational	n
24	30/05/2020	Grey seal (Halichoerus grypus)	200	1	Operational	n
25	30/05/2020	Basking shark (Cetorhinus maximus)	200	1	Operational	n
26	31/05/2020	Pilot Whales (Globicephala melas).	700	6	Operational	n
27	31/05/2020	Minke Whale (Balaenoptera acutorostrata)	700	1	Operational	n
28	31/05/2020	Unidentified Whales	700	4	Operational	n
29	31/05/2020	Unidentified Whales	1000	1	Operational	n
30	31/05/2020	Unidentified Whales	700	1	Operational	n
31	31/05/2020	Unidentified Whales	1000	4	Operational	n
32	31/05/2020	Minke Whale (Balaenoptera acutorostrata)	5	1	Operational	n



Sightings	Date	Species or species group	Range of animal (metres)	Total number	Vessel activity	Mitigation required?
33	01/06/2020	Minke Whale (Balaenoptera acutorostrata)	500	1	Operational	n
34	01/06/2020	Unidentified Dolphins	600	3	Not operational	n
35	01/06/2020	Minke Whale (Balaenoptera acutorostrata)	700	1	Operational	n
36	01/06/2020	Unidentified whales	700	1	Operational	n
37	01/06/2020	Minke Whale (Balaenoptera acutorostrata)	200	1	Operational	n
38	01/06/2020	Minke Whale (Balaenoptera acutorostrata)	500	2	Operational	n
39	01/06/2020	Minke Whale (Balaenoptera acutorostrata)	100	1	Operational	n
40	01/06/2020	Sei whale (Balaenoptera borealis)	1000	2	Not operational	n
41	01/06/2020	Minke Whale (Balaenoptera acutorostrata)	200	1	Not operational	n

Sighting 1, 2, 4, 5, and 6 on 06/05/2020, several different pods of common dolphins (*Delphinus delphis*) observed travelling alongside and bow-riding during the transit to the infield site of the survey vessel *Edda Sun*, no mitigation was required.

Sighting 8 on 19/05/2020, one unidentified whale was observed 300m from the offshore survey vessel, *Edda Sun*, whilst on transit to Corrib.in-field site. Only a single blow and fin was observed. Operations were ongoing and no mitigation was required.

Sighting 7 on 19/05/2020; Sighting 9 on 21/05/2020; Sighting 10, 11 and 12 on 21/05/2020; Sighting 14 on 25/05/2020; and Sighting 24 on 30/05/2020, one grey seal (*Halichoerus grypus*) was observed during operations at the Corrib in-field site. Operations were ongoing and the MBES/USBL beacon was active. No mitigation was required.

Sighting 16 on 27/05/2020; Sighting 17 and 18 on 28/05/2020; Sighting 32 on 31/05/2020; Sightings 33,34,35,37,38,39 and 41 on 01/06/2020 of minke whale (*Balaenoptera acutorostrata*); no mitigation required.

Sighting 19 on 29/05/2020 and Sighting 40 on 01/06/2020 of possible sei whale (Balaenoptera borealis); no mitigation required.

Sighting 20 on 29/05/2020 of possible fin whale (Balaenoptera physalus); no mitigation required.

Sighting 25 on 30/05/2020 of a basking shark (Cetorhinus maximus), no mitigation required.

Sightings Form – Edda Sun

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			100		<u> </u>		<u> </u>	-	_		6.54			Langdork greg hady will amail aintir atoped																	-	_		_		
Edd. San 2	1 23/1	5/2020	7:00 2			I Smith First Officer/I	54	21.1		11	2.58		254.8 Whale, presible FigWhale (Balarony)	fre fin Plan 2-de wrak.	22	788	- 1	1	_			Iraniling.							711	7:15	\rightarrow	_				1.0
E44.5 2	1 2371	5/2020	2:41 12	. se .	1	Swill	54	13.3	٠.	11	6.33		SSCS Dulphin, paraible Balllenner	Dark greg, rakeal hadg. Sala	125	- 11	- 1	1				Iraniling			- 1		12:0	12:51		12:58						1.01
E44.5 2	2 22/	5/2020	e-m - 45	.,		15mills	54	21.5		- 44	5.05		SSU Mine White	Small rangeal, with while palabon on prolocal fire. He blow	16	- 11						Circled search and left.		_			6.0	45-25		65-62						
					_				1 -	T				Server of blace sharrerd. Several urre area								Stationary in name area for														
E44.5 2	, 37/	5/2020	5:48 16		Ι.	I Swith	54	21.5		11	3.07	, , ,	SSCI Unidentified wholes	albre.	- 911	1858	١,					and half as been	١.		,				1258							1.00
E44,5 2						15-26							SSCS Gregoral [Hallisherron graphs]		- 411							Manging in the								4021						
E44.5 2	. ,,,,,	,,,,,,,	1010 10 1010 21		+ :		54	21.5	•	11	1.53		ISCA Section start		271	201		1	1			Iranilia.		-:-			13:11	16:21	201	16:28	-	_	_	-:-		1.11
Edd See		5/2020			+ :	15=36	54			11	1.02		SSCA Parable Pilel whole	Darkarra	121		-	1				Hilling possible feeding	-:-	- : -					711	1:11	-		_	-		1.11
E44.5 2	2 31/1	5/2020	1:12 1				54	21.3		11	1.25		SSEE Colores Paraillo Hinle	Dark greg, also perpositing, as blass	-65	711	- 1	1				Transiting			- 6				711	1:45						1.11
E44.5aa 2	1 3171			S8 .			54			- 11	1.27		SSCI White	Searcal blace abarrard simultarrands	411							leasiling.			- 6				788	12:38						1.11
							54			- 11	1.25		SCI Wales	Place sharrard	271			1				leaniling.			- 6	- 6			1111	12:58						1.11
E44,5aa 1							54			- 11	1.25		SSA.B White	Plaus sharrard	411			1				Iraniling		-		ş.			711	12:58						1.11
							54			- 11	59.85		SSCI ukales	Plaus starrard					-			brandling.							4111	15:58	\rightarrow	_				1.11
2447744	. , ,,,,	,,,,,,,			-		54			- 11	1.27		SSEE HILL-WEID	Video labra Dark area, also persolalar, as blow	- 111			+ :-	_			Iraniling.	-	-	- 1		Rill	12:11		12:11	-	_	_			1.11
E44.5m 1		1/2021 1/2021		11 .	+ :	H. Parerr	54			11	51.41		SSCS Colores Passible Minle	Arrigers	271		- 1	+ :-	_			transiting	- :						511	6:11	-	_	_	-		1.0
Edd See 1		6/2020			+ :		54			- 11	33.73		SSC.S Colores, Passible Hinle	Dark greg, also perpaining, as blace	21		-	+ ;				Iraniling	-:-	- :-					70	1:11	_		_	-:		1.11
Edd See 1		6/2020			+ :		54			- 11	33.0		SSCI Unitedifferentle Male	Play sharrard	- 31	701	1	+ +				Iranilia Iranilia							70	1:45	\rightarrow	-		-:-		1.11
E44.5 1		6/2020		55 .	T :		54			- 11	53.77		SCI Historia			100	-					transiting			- ;		3:23	1:55		3:58				•		1.11
							54			- 11	57.51		SSCI Celareas, Parrialle High		31		2					alalissarq.	- 1	-					311	18:25				•		1.11
							54			11	\$7.58		SSCI HIGH-WEID		31			- 1				mariable					11:6	12:85		18:55						1.11
	1 1971					I Swith	54			11			128.8 Celseras, Passible Sei	Plauseherrard								leaseiling.							1111						-	1.11
E44.5 4	1 11/1	1/2020	5:18 15			15-3%	54	13.6		- 11	27.10	- T	SEE Mink-White		411	211	- 1	- 1				transiting		-					201							
\vdash	-	-	-	+	-		-	+	-	-	-	\vdash		+	_	-		-	-												\rightarrow				_	
\vdash	+	-	+	+	+		+	+	_	+	-	+			_	-	_	+	_				_						_		-	_				
\rightarrow	_	-	_		+		-	+	-	_	-	-		-	_	-	-	_	\vdash				_								_	_				

Effort Form - Edda Sun

Shipl	Date	Visual	Observer's /	Time of	Time of end	Source	Start	Start	Start	Start	Start	Start	Depth of	End	End	End	End	End	End	Depth of	Speed	Vind	Wind force	Can	Cuall	Visibility	Cup alara	Draginitat	Comments
platform		watch or	operator's	start of	of section	activity	position -	position -	water at	position -	water at	of	direction	(Beaufort)		owen.	(visual	(visual	ion	Comments									
name		PAM?	name(s)	section of	of watch	-	degrees	minutes	north/	degrees	minutes	east/	start	degrees	minutes	north/	degrees	minutes	easti	end	vessel					watch	watch		
				watch (UTC)	(UTC)		latitude	latitude	south	longitude	longitude	west	postion	latitude	latitude	south	longitude	longitude	west	position	(knots)					only)	only)		
Edda Sun	05/05/2020	v	l Smith	5:36	6:31	n	58	16.87	n	2	29.30	w	(metres) 59.0	58	24.50	n	2	38.14	w	fmetres) 56.0	9.6	w	3	s	m	9	n	n	In transit to site
Edda Sun	05/05/2020	v	I Smith	6:31	6:55	n	58	24.50	n	2	38.14	W	56.0	58	26.90	n	2	41.75	W	56.0	9.6	sw	2	s	m	g	n	n	In transit to site
Edda Sun	05/05/2020	v	I Smith	7:32	8:43	n	58	31.90	n	2	47.85	W	73.0	58	38.98	n	2	58.81	W	71.0	9.6	SW	2	s	0	9	wb	n	break for HOD meeting
Edda Sun	05/05/2020	v	I Smith	8:43	9:30	n	58	38.98	n	2	58.81	w	71.0	58	42.76	n	3	12.90	w	71.5	9.6	sw	3	s	0	g	sb	n	In transit to site
Edda Sun	05/05/2020	V	I Smith	9:30	9:50	n	58	42.76	n	3	12.90	w	71.5	58	42.65	n	3	19.60		60.0	11.5	w	5	s	0	g	sf	n	break for flam meeting
Edda Sun	05/05/2020	v	I Smith	10:50	11:54	n	58	42.24	n	3	43.67	w	93.5	58	41.79	n	4	8.34	w	80.1	12.4	w	5	s	0	9	sf	n	In transit to site
Edda Sun	05/05/2020	v	I Smith	11:54	13:43	١,	58	41,79	١,	4	8,34	w w	80.1	58	40,39	l ,	4	50.41		63,5	12.0	w	5	s			sf	n	break for meetings at 13;00, 14:00 an 14:20
Edda Sun	05/05/2020	Ü	I Smith	13:43	14:43	, n	58	40.39		4	50.41	w	63.5	58	35.15		5	13.00	- w	70.0	12.0	ω	6		0	0	sf	n	In transit to site
Edda Sun	05/05/2020		I Smith	14:43	15:54	n n	58	35.15	n	5	13.00	w	70.0	58	26.90	n	5	28.69	w	104.0	12.0	W	5	s		9	wf		In transit to site
Edda Sun	05/05/2020		I Smith	15:54	16:35	n	58	26.90	n	5	28.69	w	104.0	58	21.54	В	5	39.12	w	112.0	11.5	sw	4		0	-	wf	n	In transit to site
Edda Sun	05/05/2020	v	I Smith	16:35	16:56	n	58	21.54	n	5	39.12	w	112.0	58	18.83	n	5	44.29	w	116.0	11.3	sw	4	g	0	9	sf	n	In transit to site
Edda Sun	05/05/2020	v	I Smith	16:56	17:40	n	58	18.83	n	5	44.29	w	116.0	58	12.80	n	5	54.32	w	104.5	10.9	s	4	g	0	g	sf	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	4:00	5:00	n	56	32.28	n	7	35.12	w	177.5	56	24.37	n	7	40.85	w	161.0	10.5	s	4	s	0	9	n	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	5:00	6:08	n	56	24.37	n	7	40.85	W	161.0	56	13.63	n	7	48.61	W	89.0	10.0	s	3	s	0	g	sb	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	6:08	6:28	n	56	13.63	n	7	48.61	W	89.0	56	11.62	n	7	50.06	W	80.0	9.9	s	5	s	0	9	sb	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	6:28	7:38	n	56	11.62	n	7	50.06	w	80.0	55	59.89	n	7	58.50	w	140.0	10.2	s	5	s	0	9	sb	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	7:38	8:04	n	55	59.89	n	7	58.50	w	140.0	55	40.67	n	8	10.93	w	173.0	10.0	se	5	s	0	g	sf	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	8:04	8:55	n	55	40.67	n	8	10.93	w	173.0	55	48.36	n	8	6.74	W	112.5	10.0	se	5	s	0	9	sf	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	8:55	9:38	n	55	48.36	n	8	6.74	W	112.5	55	41.40	n	8	11.70	W	91.0	9.6	se	5	s	۰	9	wf	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	9:38	10:35	n	55	41.40	n	8	11.70	W	91.0	55	33.86	n	8	17.06	W	82.0	9.7	se	5	s	0	9	wf	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	10:35	11:30	n	55	33.86	n	8	17.06	w	82.0	55	22.51	n	8	22.99	W	87.0	9.6	se	5	s	0	9	wf	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	11:30	12:38	n	55	22.51	n	8	22.99	W	87.0	55	14.69	n	8	30.58	W	75.2	9.9	se	3	S	٥	g	wf	n	In transit to site
Edda Sun	06/05/2020	V	I Smith	13:46	15:16	n	55	3.93	n	8	38.14	W	72.7	54	50.17	n	8	47.75	W	70.5	10.3	e	2	s	0	9	sf	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	15:16	16:25	n	54	50.17	n	8	47.75	W	70.5	54	39.85	n	8	53.38	W	89.0	9.8	e	2	S	0	9	sf	n	In transit to site
Edda Sun	06/05/2020	V	I Smith	16:25	18:38	n	54	39.85	n	8	53.38	W	89.0	54	35.59	n	8	29.20	W	35.0	8.3	se	5	S	٥	g	sb	n	In transit to site
Edda Sun	06/05/2020	v	I Smith	18:38	18:38	n	54	35.59	n	8	29.20	W	35.0	54	35.59	n	8	29.20	W	35.0	6.4	e	5	S	0	9	sb	n	In transit to site
Edda Sun	07/05/2020	v	I Smith	6:30	8:00	n	54	35.96	n	8	29.10	W	34.0	54	32.42	n	8	57.70	W	75.0	11.0	se	1	s	۰	9	n	n	In transit to site
Edda Sun	07/05/2020	v	I Smith	8:00	9:21	n	54	32.42	n	8	57.70	W	75.0	54	30.06	n	9	23.29	W	89.0	11.2	se	3	S	۰	9	n	n	In transit to site
Edda Sun	07/05/2020	v	I Smith	9:21	10:30	n	54	30.06	n	9	23.29	W	89.0	54	28.09	n	9	44.56	W	93.0	11.0	se	3	s	۰	g	n .	n	In transit to site
Edda Sun	07/05/2020	v	I Smith	10:30	12:30	n	54 54	28.09	n	9	44.56 20.18	W	93.0	54 54	24.59	n	10	20.18	W	118.0 185.0	11.1	se	4	S	0	9	sb	n	In transit to site
Edda Sun Edda Sun	07/05/2020	v	I Smith I Smith	12:30	13:30 14:50	n	54	24.59	n n	10	38.19	w	185.0	54	22.79	n	10	0.33	w	345.0	10.3	se	4	s	0	9	n n	n n	In transit to site
Edda Sun	07/05/2020		I Smith	14:50	15:32	n	54	20.62	n	11	0.33	w	345.0	54	20.82	n	11	1.68	w	345.0	10.2	se se	4	s	0	m m	n	n	In transit to site In transit to site
Edda Sun	07/05/2020		1 Smith	15:32	15:50	"	54	20.82	"	11	1.68	w	345.0	54	20.83	- "	11	2.24	w	345.0	1.0	se	4	s	0		n n	n	In transit to site
Edda Sun	07/05/2020	v	1 Smith	15:50	16:30		54	20.83	,	11	2.24	w w	345.0	54	20.83		11	2.24	ω	345.0	1.0	se	4	٥.	0	n	,		Arrived on field, commence Dp set
									<u> </u>															-					USBL Callibration and commence
Edda Sun	07/05/2020	v	I Smith	16:30	16:30	,	54 54	20.83	n	11	2.24	W	345.0	54	20.83	n	11	2.24	W	345.0	1.0	s	4	S	0	9	n	n	inspection
Edda Sun	08/05/2020		I Smith	5:00	6:27		54	20.80	n	11	2.21	W	345.0	54 54	20.80	n	11	2.21	W	345.0	0.6	S .	4	s	0	9	n	- -	lauraias I annais a 1000m :-
Edda Sun Edda Sun	08/05/2020	v	I Smith I Smith	6:27 7:45	7:45 8:37		54	20.80	n	11	2.21	W	345.0 345.0	54	20.84	n	11	2.24	W	345.0 345.0	0.9	n	4	S	٥	P	n	n	low mist Less than 1000m vis low mist less than 500m vis

Shipi	Date	Visual	Observer's /	Time of	Time of end	Source	Start	Start	Start	Start	Start	Start	Depth of	End	End	End	End	End	End	Depth of	Speed	Vind	Vind force	Sea	Swell	Visibility	Sun glare	Precipitat	Comments
latform		watch or	operator's	start of	of section		position -	position	water at	position -	position -	water at	of	direction	(Beaufort)		34611	(visual	(visual	ion	Comments								
name		PAM?	name(s)	section of	of watch	-	degrees	minutes	north/	degrees	minutes	east/	start	degrees	minutes	north/	degrees	minutes	east/	end	vessel					watch	watch		
				(UTC)	(UTC)		latitude	latitude	south	longitude	longitude	west	postion	latitude	latitude	south	longitude	longitude	west	position	(knots)					only)	only)		
Edda Sun	08/05/2020	v	I Smith	8:37	9:30	- 6	54	20.84	n	11	2.24	w	(metres) 345.0	54	20.84	n	11	2.24	w	(metres) 345.0	0.9	n	4	s		a	n	n	
Edda Sun	08/05/2020	v	1 Smith	9:30	10:32	F	54	20.84	n	11	2.24	W	345.0	54	20.84	n	11	2.24	w	345.0	0.9	n	4	s		a	n	n	
Edda Sun	08/05/2020	v	I Smith	10:32	11:30	F	54	20.84	n	11	2.24	w	345.0	54	20.84	n	11	2.24	W	345.0	0.9	n	4	s		q	n	n	
Edda Sun	08/05/2020	v	I Smith	11:30	12:30	f	54	20.84	n	11	2.24	w	345.0	54	20.84	n	11	2.24	w	345.0	0.9	n	4	s		q	n	n	
Edda Sun	08/05/2020	v	I Smith	12:30	13:30	F	54	20.84	n	11	2.24	w	345.0	54	20.84	n	11	2.24	w	345.0	0.9	n	4	s	0	g	n	n	
Edda Sun	08/05/2020	v	I Smith	13:30	14:31	F	54	20.84	n	11	2.24	w	345.0	54	20.84	n	11	2.24	W	345.0	0.6	ne	4	s	0	9	n	n	
Edda Sun	08/05/2020	v	I Smith	14:31	15:29	F	54	20.84	n	11	2.24	w	345.0	54	20.84	n	11	2.24	w	345.0	0.6	ne	3	s	0	9	wf	n	
Edda Sun	08/05/2020	v	I Smith	15:29	16:30	f	54	20.84	n	11	2.24	w	345.0	54	20.84	n	11	2.24	w	345.0	0.6	ne	3	s	0	g	wf	n	
Edda Sun	08/05/2020	v	I Smith	16:30	17:00	f	54	20.84	n	11	2.24	w	345.0	54	20.84	n	11	2.24	W	345.0	0.6	n	3	s	0	g	wf	n	
Edda Sun	09/05/2020	v	I Smith	5:00	5:10	f	54	20.84	n	11	2.24	W	345.0	54	20.83	n	11	2.23	W	345.0	0.5	ne	2	s	۰	P	n	1	Heavy mist. Less than 100m vis
Edda Sun	09/05/2020	v	I Smith	13:00	13:10	f	54	20.83	n	11	2.23	W	345.0	54	20.83	n	11	2.23	W	345.0	0.2	ne	3	S	٥	P	n	n	Heavy mist. Less than 100m vis
Edda Sun	09/05/2020	V	I Smith	17:00	17:10	f	54	20.83	n	11	2.23	W	345.0	54	20.83	n	11	2.23	W	345.0	0.0	n	4	s	۰	9	n	n	Mist lifted at end of watch
Edda Sun	10/05/2020	v	I Smith	5:00	5:10	n	54	20.56	n	11	2.47	W	345.0	54	20.56	n	11	2.47	W	345.0	0.5	ne	8	r	m	m	n	n	WOW Gusting 43 kts
Edda Sun	10/05/2020	٧	I Smith	9:00	9:10	n	54 54	20.58	n	11	3.36 2.37	W	345.0 345.0	54 54	20.58	n	11	3.36 2.37	W	345.0 345.0	0.1	ne	8	r		m	sf	n	VOV Gusting 43 kts
Edda Sun Edda Sun	10/05/2020		I Smith I Smith	14:41	14:45	n n	54	22.26	n n	11	3.17	w	345.0	54	22.26	n n	11	3.17	w	345.0	0.4	ne ne	8	-		m	n sf	n n	WOW Gusting 48 kts WOW Gusting 47 kts
Edda Sun	1010512020	v	I Smith	19:91	19:40	- n	04	22.26	n n	- "	3.17	W	340.0	04	22.26	n n	- "	3.17	W	345.0	0.6	ne	*		- '	Р	St	n	Low thick cloud. Too dark to start
Edda Sun	11/05/2020	v	I Smith	3:30	3:50	n	54	20.69	n	11	2.17	w	345.0	54	20.37	n	11	2.26	W	345.0	0.7	ne	6	1	m	Р	n	n	watch
Edda Sun	11/05/2020	v	I Smith	3:50	4:35	n	54	20.37	n	11	2.26	W	345.0	54	20.84	n	11	2.25	W	345.0	0.2	ne	6	С	m	m	n	n	Start of watch
Edda Sun	11/05/2020	,	I Smith	4:35	5:35		54	20.84	n	11	2.25	ω	345.0	54	20.84	n	11	2.25	w	345.0	0.1	ne	6		m	a	,	n	End of watch, USBL activated, start inspectiom operation
Edda Sun	11/05/2020		1 Smith	6:10	7:00	F	54	20.85	n	11	2.23	W	345.0	54	20.85	n	11	2.23	- w	345.0	0.3	е е	6	c	m	0	n	n n	
Edda Sun	11/05/2020	v	I Smith	7:00	8:00	ı,	54	20.85	n	11	2.23	w	345.0	54	20.86	n	11	2.22	l w	345,0	0.3	e	5	o	m	ā	n	n	
Edda Sun	11/05/2020	v	I Smith	8:00	9:00	F	54	20.86	n	11	2.22	w	345.0	54	20.85	n	11	2.19	w	345.0	0.3	e	7	0	m	g	vf	- 1	
Edda Sun	11/05/2020	v	I Smith	9:19	10:30	f	54	20.85	n	11	2.19	W	345.0	54	20.86	n	11	2.25	w	345.0	0.2	e	6	С	m	g	sf	n	
Edda Sun	11/05/2020	v	I Smith	10:30	10:45	F	54	20.86	n	11	2.25	w	345.0	54	20.80	n	11	2.24	W	345.0	0.1	ne	5	С	m	g	n	n	
Edda Sun	11/05/2020	v	I Smith	12:30	13:25	F	54	20.80	n	11	2.24	w	345.0	54	20.81	n	11	2.33	w	345.0	0.1	ne	5	С	m	g	n	n	
																													Lynx 42 back to deck and shut dow during ship to ship tranfer of crate.
Edda Sun	11/05/2020	v	I Smith	13:25	14:00	n	54	20.81	n	11	2.33	w	345.0	54	20.80	n	11	2.23	l w	345.0	0.1	ne	5	0	m	g	n	n	Suspend inspection
Edda Sun	11/05/2020	v	I Smith	14:00	14:20	n	54	20.80	n	11	2.23	w	345.0	54	20.35	n	11	3.39	w	345.0	0.1	ne	5	0	m	9	n	n	
																													Complete transfer, relocate to P1
Edda Sun	11/05/2020	o l	I Smith	14:20	15:30	l f	54	20.35	n	11	3.39	w	345.0	54	20.35	n	11	3,41	w	345.0	0.1	ne	5		m	a	sb	n	well and recommence inspecton survey. USBL full power
Edda Sun	11/05/2020	v	1Smith	15:30	16:00	F	54	20.35	n	11	3.41	w	345.0	54	20.34	n	11	3,41	w	345.0	0.1	n	5	c	m	q	sb	n	continue inspection
Edda Sun	11/05/2020	v	I Smith	16:00	16:00	f f	54	20.34	n	11	3.41	w	345.0	54	20.34	n	11	3.41	w	345.0	0.2	n	5	c	m	9	sb	n	continue inspection
Edda Sun	12/05/2020	v	I Smith	5:00	6:00	F	54	20.31	n	11	3.38	w	345.0	54	20.31	n	11	3.51	w	345.0	0.2	n	3	s	0	g	sb	n	continue inspection
	4010510000		10.00		200						0.54																		continue inspection. Break for
Edda Sun	12/05/2020		I Smith I Smith	6:00	7:00 8:30	1	54 54	20.31	n	11	3.51	W	345.0 345.0	54 54	20.31	n	11	3.51	W	345.0 345.0	0.5	n	3	S e	0	9	sb sf	n -	meeting. continue inspection
Edda Sun Edda Sun	12/05/2020		I Smith	8:00 9:05	10:05		54	20.34	n n	11	3,42	w	345.0	54	20.35	n n	11	3.40	w	345.0	0.4	nw	3	s	0	9	St Sf	n n	continue inspection
Edda Sun Edda Sun	12/05/2020		I Smith	10:05	10:05	+ -	54	20.35	n n	11	3.40	w	345.0	54	20.33	n	11	3.40	w	345.0	0.0	nw n	3	S	0	9	St n	n n	continue inspection
Edda Sun	12/05/2020		I Smith	11:45	12:45	+ ;	54	20.33	n	11	3,41	w	345.0	54	20.34	n n	11	3,40	w	345.0	0.0	n nw	3	s	0	9	n wf	n n	continue inspection
Edda Sun	12/05/2020	- ×	I Smith	14:08	16:08	1	54	20.35	n	11	3.42	w	345.0	54	20.35	" "	11	3,49	- w	345.0	0.0	n	3	s		9	wf	n	continue inspection
Luda ouil	#2F00F2020	_ v	Dilling	14:00	10:00	'	- 04	20.00	- "	- "	3.42	- w	340.0	- 04	20.30		- "	3.40	+ w	340.0	0.1			3	-	y	Wf		

Shipł platform name		Visual watch or PAM?	Observer's / operator's name(s)	Time of start of section of watch (UTC)	Time of end of section of watch (UTC)	Source activity	Start position degrees latitude	Start position - minutes latitude	Start position - north/ south	Start position - degrees longitude	Start position - minutes longitude	Start position east/ west	Depth of water at start postion (metres)	End position - degrees latitude	End position - minutes latitude	End position - north/ south	End position - degrees longitude	End position - minutes longitude	End position - east/ west	Depth of water at end position (metres)	Speed of vessel (knots)	Vind direction			Swell	Visibility (visual watch only)	(visual watch only)	Precipitat ion	Comments
Edda Sun	12/05/2020	V	I Smith	14:08	16:08	F	54	20.35	n	11	3.42	w	345.0	54	20.35	n	11	3.49	w	345.0	0.1	n	3	s	0	g	wf	n	continue inspection
Edda Sun	13/05/2020	v	I Smith	16:08	17:05	f	54	20.35	n	11	3.49	W	345.0	54	20.34	n	11	3.44	W	345.0	0.1	ne	4	s	۰	g	n	n	continue inspection
Edda Sun	13/05/2020	v	I Smith	5:00	6:00	F	54	20.34	n	11	3.44	W	345.0	54	20.23	n	11	3.44	W	345.0	0.1	ne	5	s	۰	g	sf	n	continue inspection
Edda Sun	13/05/2020	V	I Smith	6:00	7:00	f	54	20.23	n	11	3.44	W	345.0	54	20.34	n	11	3.45	W	345.0	0.1	ne	5	S	m	g	sf	n	continue inspection
Edda Sun	13/05/2020	V	I Smith	8:30	9:30	f	54	20.34	n	11	3.46	W	345.0	54	20.34	n	11	3.46	W	345.0	0.1	ne	5	c	m	g	sf	n	continue inspection
Edda Sun	13/05/2020	V	I Smith	9:30	10:40	f	54	20.34	n	11	3.46	W	345.0	54	20.34	n	11	3.44	W	345.0	0.0	ne	5	0	۰	g	sf	n	continue inspection
Edda Sun	13/05/2020	v	I Smith	12:30	13:30	- 1	54	20.35	n	11	3.46	W	345.0	54	29.35	n	11	3.62	W	345.0	0.0	ne	5	С	۰	g	sb	n	continue inspection
Edda Sun Edda Sun	13/05/2020	v	I Smith I Smith	13:30	14:05 15:00	,	54 54	20.35	n	11	3.62 4.30	w	345.0 345.0	54 54	19.18	n n	11	4.30 4.28	w	345.0 345.0	0.6	ne ne	5	c	n n	g q	wb sb	n n	continue inspection Relocate to P5 well and commence inspection
Edda Sun	13/05/2020	v	I Smith	15:00	16:00	f	54	19.21	n	11	4.28	w	345.0	54	19.21	n	11	4.28	W	345.0	0.0	ne	5	c	m	q	wb	n	Continue inspection P5
Edda Sun	13/05/2020	v	I Smith	16:00	17:00	f	54	19.23	n	11	4.28	w	345.0	54	19.20	n	11	4.28	W	345.0	0.1	ne	5	С	m	q	sb	n	continue inspection P2
Edda Sun	14/05/2020	v	I Smith	5:00	6:00	F	54	19.17	n	11	2.91	w	345.0	54	20.35	n	- 11	3.57	w	345.0	5.6	ne	3	s	m	q	sf	n	Transit to start of Pipeline
Edda Sun	14/05/2020	v	I Smith	6:00	7:00	F	54	20.35	n	11	3.57	w	345.0	54	20.37	n	11	2.51	w	345.0	0.1	ne	3	s	0	9	sf	n	Start Pipeline survey
Edda Sun	14/05/2020	v	I Smith	8:00	9:30	F	54	20.55	n	11	3.14	w	345.0	54	21.02	n	11	2.10	w	345.0	0.5	ne	2	s	m	9	sf	n	Continue Pipeline survey
Edda Sun	14/05/2020	v	I Smith	9:30	10:40	f	54	21.02	n	11	2.10	W	345.0	54	21.27	n	11	1.35	W	345.0	0.5	n	2	s	m	g	sf	n	Continue Pipeline survey
Edda Sun	14/05/2020	v	I Smith	12:34	13:30	f	54	21.46	n	10	59.39	w	352.0	54	21.48	n	10	57.37	W	339.0	0.3	nw	2	s	m	g	wf	n	Continue Pipeline survey
Edda Sun	14/05/2020	٧	I Smith	13:30	14:30	F	54	21.48	n	10	57.37	w	339.0	54	21.26	n	10	55.16	w	327.0	1.1	n	2	s	m	g	n	n	Continue Pipeline survey
Edda Sun	14/05/2020	٧	I Smith	16:00	17:00	F	54	21.08	n	10	51.86	w	305.2	54	21.04	n	10	49.94	w	295.6	1.3	n	2	s	0	g	n	n	Continue Pipeline survey
Edda Sun	15/05/2020	٥	I Smith	5:00	6:30	F	54	20.59	n	10	24.78	w	130.0	54	19.82	n	10	20.75	w	127.8	1.3	DW	4	s	m	g	wf	n	Continue Pipeline survey
Edda Sun	15/05/2020	v	I Smith	6:30	7:00	f	54	19.82	n	10	20.75	w	127.8	54	19.82	n	10	20.75	W	127.1	0.0	nw	4	s	m	g	sf	n	Continue Pipeline survey
Edda Sun	15/05/2020	v	I Smith	7:30	9:00	f	54	20.50	n	10	19.79	w	123.5	54	20.47	n	10	16.36	W	116.1	1.2	nw	3	s	m	g	sf	n	Continue Pipeline survey
Edda Sun	15/05/2020	v	I Smith	9:00	10:00	f	54	20.47	n	10	16.36	w	116.1	54	29.46	n	10	14.60	w	110.9	1.3	nw	3	s	m	g	sf	n	Continue Pipeline survey
Edda Sun	15/05/2020	v	I Smith	10:00	10:30	F	54	29.46	n	10	14.60	w	110.9	54	20.41	n	10	10.43	w	102.0	1.3	DW	3	s	m	g	wf	n	Continue Pipeline survey
Edda Sun	15/05/2020	V	I Smith	12:00	13:15	f	54	20.41	n	10	10.43	W	102.0	54	20.25	n	10	7.45	W	96.2	1.3	nw	4	s	m	9	sf	n	Continue Pipeline survey
Edda Sun	15/05/2020	v	I Smith	13:15	14:35	f	54	20.25	n	10	7.45	W	96.2	54	20.25	n	10	5.35	W	90.3	1.3	nw	3	s	m	g	sb	n	Continue Pipeline survey
Edda Sun	15/05/2020	v	I Smith	14:35	15:30	f	54	20.25	n	10	5.35	W	90.3	54	20.07	n	10	3.59	W	83.0	1.1	W	4	s	0	g	sb	n	Continue Pipeline survey
Edda Sun	15/05/2020	V	I Smith	15:30	16:30	f	54	20.07	n	10	3.59	W	83.0	54	20.14	n	10	1.49	W	79.0	1.2	W	4	s	m	g	sb	n	Continue Pipeline survey
Edda Sun	15/05/2020	v	I Smith	16:30	17:00	f	54	20.14	n	10	1.49	w	79.0	54	20.04	n	10	0.80	w	78.2	1.4	W	4	s	m	g	n	n	Continue Pipeline survey Operation suspended for Vessel to
Edda Sun	15/05/2020	v	I Smith	18:20	18:50	n n	54	19.73	n	9	59.41	w	71.0	54	19.73	n	9	59.41	w	71.0	0.1	w	3	s	m	q	n	n	Vessel trasnfer
Edda Sun	16/05/2020	v	I Smith	5:00	6:16	F	54	17.41	n	9	54.00	w	36.5	54	17.83	n	9	55.0	w	40.8	0.6	W	4	s	0	g	n	n	Continue Umbilical survey
Edda Sun	16/05/2020	v	I Smith	6:16	7:00	F	54	17.83	n	9	55.0	w	40.8	54	18.04	n	9	55.2	w	43.7	0.5	w	4	s	0	9	n	n	Continue Umbilical survey
Edda Sun	16/05/2020	v	I Smith	7:00	7:51	f	54	18.04	n	9	55.2	w	43.7	54	18.24	n	9	56.0	W	40.0	0.7	W	4	s	m	g	n	n	Continue Umbilical survey
Edda Sun	16/05/2020	v	I Smith	7:51	8:25	n	54	18.24	n	9	56.0	w	40.0	54	16.97	n	9	52.7	w	25.0	0.2	W	4	s		g	n	n	Continue Umbilical survey
Edda Sun	16/05/2020	V	I Smith	8:25	9:08	F	54	16.97	n	9	52.7	w	25.0	54	17.01	n	9	52.9	w	27.0	0.0	W	4	s	0	9	n	n	Continue Umbilical survey
Edda Sun	16/05/2020	v	I Smith	9:08	10:04	f	54	17.01	n	9	52.9	w	27.0	54	17.19	n	9	22.5	W	30.5	0.4	W	4	s	0	g	n	n	Continue Umbilical survey Vessel move 3.1km,FCV recovered and MBES stopped, Re-run part of
Edda Sun	16/05/2020	v	I Smith	10:04	10:25	n .	54	17.19	n	9	22.5	W	30.5	54	18.22	n	9	55.90	W	44.1	0.6	W	4	S	۰	g	n	n	survey due to anomolies
Edda Sun	16/05/2020	v	I Smith	12:25	13:26	<u> </u>	54	18.59	n	9	56.83	W	46.9	54	18.94	n	9	57.67	W	46.6	0.6	SW	4	S	۰	g	n	n	Continue Umbilical survey
Edda Sun	16/05/2020	V	I Smith I Smith	13:26 14:28	14:28 16:15	<u> </u>	54 54	19.29	n n	9	57.67 58.52	W	46.6 53.4	54 54	19.29	n n	9	58.52 58.52	w	53.4 53.4	0.6	SW SW	5	S	0	9	n n	n	Continue Umbilical survey Continue Umbilical survey

Ship/ platform name	Date	Visual watch or PAM?	Observer's / operator's name(s)	Time of start of section of watch (UTC)	Time of end of section of watch (UTC)	Source activity	Start position - degrees latitude	Start position - minutes latitude	Start position - north/ south	Start position - degrees longitude	Start position - minutes longitude	Start position - east/ west	Depth of water at start postion (metres)	End position - degrees latitude	End position - minutes latitude	End position north/ south	End position - degrees longitude	End position - minutes longitude	End position east/ west	Depth of water at end position (metres)	Speed of vessel (knots)	Vind direction	Wind force (Beaufort)		Swell	Visibility (visual watch only)	Sun glare (visual watch only)	Precipitat ion	
Edda Sun	20/05/2020	v	l Smith	18:00	18:30	n	54	20.94	n	11	2.37	w	354.0	54	20.94	n	11	2.27	w	354.0	0.2	s	6	С	1	m	n	n	Pre-shoot watch prior to restart after WOW.
Edda Sun	21/05/2020	v	I Smith	5:00	5:25	F	54	20.31	n	11	3.48	w	354.0	54	20.32	n	11	3.55	w	354.0	0.3	sw	4	s	m	9	n	n	Inspection infield survey continues
Edda Sun	21/05/2020	v	I Smith	5:25	6:01	F	54	20.32	n	11	3.55	w	354.0	54	19.98	n	11	3.70	w	354.0	0.5	SW	4	s	m	9	sb	n	Inspection infield survey continues
Edda Sun	21/05/2020	v	I Smith	6:01	6:55	f	54	19.98	n	11	3.70	w	354.0	54	20.29	n	11	3.43	w	354.0	0.7	sw	4	s	m	9	sb	n	Inspection infield survey continues
Edda Sun	21/05/2020	v	I Smith	6:55	8:12	n	54	20.29	n	11	3.43	w	354.0	54	20.84	n	11	2.25	w	354.0	0.3	SW	4	s	m	9	sb	n	Inspection infield survey continues
Edda Sun	21/05/2020	v	I Smith	8:12	9:20	f	54	20.84	n	11	2.25	w	354.0	54	20.84	n	11	2.27	w	354.0	0.1	SW	4	s	m	g	sb	n	Inspection infield survey continues
Edda Sun	21/05/2020	v	I Smith	9:20	10:20	f	54	20.84	n	11	2.27	w	354.0	54	20.84	n	11	2.23	w	354.0	0.1	sw	4	S	m	g	sb	n	Inspection infield survey continues
Edda Sun	21/05/2020	v	I Smith	12:15	12:39	f	54	20.84	n	11	2.26	w	354.0	54	20.84	n	11	2.26	w	354.0	0.3	sw	5	0	m	9	sb	n	Inspection infield survey continues
Edda Sun	21/05/2020	١	I Smith	12:39	13:30	١,	54	30.94	_		23.75		354.0	54	20.34	l ,	11	3,54	ا w	354.0	0.3		5		_ m		sf	n	FCV recovered to deck and reconfigured. Vessel move 1.6km
Edda Sun	21/05/2020	,	I Smith	13:30	15:15	1 7	54	20.34	n	11	3,54	w	354.0	54	19,71	, n	11	4.12	- W	354.0	0.2	5	5	0	m	0	n	n	Inspection infield survey continues
Edda Sun	21/05/2020		I Smith	15:15	16:15	1	54	19.71	n	11	4.12		354.0	54	19.18	n	- 11	4.26	w	354.0	0.7	se	5		m	0	n	n	Inspection infield survey continues
Edda Sun	21/05/2020	·	I Smith	16:15	17:00	1	54	19.18	n	11	4.26	v	354.0	54	28.24	n	8	27.22	Ü	354.0	0.1	se	5	s	m	,	n	n	Inspection infield survey continues
Edda Sun	21/05/2020	v	1 Smith	17:00	17:00	i i	54	28.24	n	8	27.22	w	354.0	54	28.24	n	8	27.22	T w	354.0	0.1	se	5	s	m	å	n	n n	Inspection infield survey continues
Edda Sun	22/05/2020	U	I Smith	5:00	6:10	n	54	28.91		8	39.52	w	50.0	54	28.74	n	8	25.61	w	28.5	6.7		7			,	n	m	Transit to Mullaghmore Bay for shelter
Edda Sun	22/05/2020	,	1 Smith	6:10	7:50	n	54	28.74	n	8	25.61	₩	28.5	54	28.30	- i	8	25.62	w	25.2	0.1	sw	9	-	-	'n	n	m	Sheltering in Mullaghmore Bay
Edda Sun	23/05/2020	-	I Smith	5:00	6:27	n	54	28.57	n	8	25.32	w	21.0	54	28.57	n	8	25.32	- w	21.0	0.1	sw	8	-	m	m	n	m	Sheltering in Mullaghmore Bay
Edda Sun	23/05/2020	v	I Smith	13:30	14:11	n	54	28.07	n	8	25.72	w	17.4	54	28.09	n	8	25.72	w	16.3	0.1	W	8	1	m		n	n	Sheltering in Mullaghmore Bau
Edda Sun	24/05/2020	Ü	I Smith	5:00	6:25	n	54	31.30	n	8	28.62	w	54.0	54	32.48	n	8	29.89	w	60.5	1.2	w	6		m	m	n	n	Sheltering in Mullaghmore Bay
Edda Sun	24/05/2020	Ü	1 Smith	6:25	8:00	D.	54	32.48	n	8	29.89	w	60.5	54	35.12	n	8	29.58	W	24.0	1.3	w	6		m	m	n	n	Sheltering in Mullaghmore Bay
Edda Sun	24/05/2020	v	I Smith	8:00	8:35	n	54	35.12	n	8	29.58	w	24.0	54	37.75	n	8	26.26	w	20.0	7.3	v	4	s		a	n	n	Tranist to Killybegs, Arrived alongside Killybegs
Edda Sun	26/05/2020	v	I Smith	15:56	16:58	n	54	37.75	n	8	26.26	w	19.0	54	33.91	n	8	29.82	w	50.0	5.6	SW	4	s		q	sf	n	Transit to Corrib site
Edda Sun	27/05/2020	v	I Smith	4:00	4:35	n	54	19.14	n	11	2.88	w	354.0	54	19.14	n	11	2.90	w	354.0	0.1	e	3	s	m	q	n	ı	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	4:35	5:30	f	54	19.14	n	11	2.90	w	354.0	54	19.14	n	11	2.88	w	354.0	0.1	e	3	s	m	q	n	l l	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	5:30	6:30	F	54	19.14	n	11	2.88	w	354.0	54	19.13	n	11	3.37	w	354.0	0.1	e	3	s	- 1	g	n	m	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	6:30	7:30	F	54	19.13	n	11	3.37	w	354.0	54	19.41	n	11	4.19	w	354.0	0.6	e	4	s	- 1	9	n	m	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	7:30	10:00	f	54	19.41	n	11	4.19	W	354.0	54	20.24	n	11	3.49	W	354.0	1.0	e	4	s	m	g	n	n	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	10:00	11:00	F	54	20.24	n	11	3.49	w	354.0	54	20.16	n	11	3.67	W	354.0	0.8	se	4	s	m	9	sb	n	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	11:00	12:00	f	54	20.16	n	11	3.67	w	354.0	54	19.29	n	11	3.90	w	354.0	0.9	se	4	s	m	9	sb	n	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	12:00	13:00	f	54	19.29	n	11	3.90	w	354.0	54	19.29	n	11	3.81	w	354.0	0.5	s	4	s	m	9	n	n	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	14:30	15:16	F	54	1.12	n	11	1.91	w	354.0	54	1.12	n	11	1.91	w	354.0	0.6	s	3	s	m	9	sf	n	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	15:16	15:43	n	54	1.12	n	11	1.91	w	354.0	54	20.84	n	11	2.23	W	354.0	0.1	s	2	s	m	9	sf	n	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	15:43	15:58	f	54	20.84	n	11	2.23	w	354.0	54	20.84	n	11	2.23	W	354.0	0.1	s	3	s	m	9	sf	n	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	15:58	16:12	n	54	20.84	n	11	2.23	w	354.0	54	20.84	n	11	2.23	w	354.0	0.2	s	3	S	m	g	wf	n	Inspection infield survey continues
Edda Sun	27/05/2020	v	I Smith	16:12	16:12	F	54	20.84	n	11	2.23	w	354.0	54	20.84	n	11	2.23	w	354.0	0.2	s	4	s	m	9	sf	n	Inspection infield survey continues
Edda Sun	28/05/2020	v	I Smith	5:00	6:00	F	54	19.18	n	11	4.22	w	354.0	54	19.18	n	11	4.22	w	354.0	0.1	se	4	s	0	9	sf	n	Inspection infield survey continues
Edda Sun	28/05/2020	v	I Smith	6:00	7:00	F	54	19.18	n	11	4.22	w	354.0	54	19.18	n	11	4.22	W	354.0	0.1	se	4	s	۰	9	sf	n	Inspection infield survey continues
Edda Sun	28/05/2020	v	I Smith	7:00	8:00	f	54	19.18	n	11	4.22	w	354.0	54	19.16	n	11	4.29	w	354.0	0.1	e	4	s	۰	g	sf	n	Inspection infield survey continues
Edda Sun	28/05/2020	v	I Smith	8:00	8:30	F	54	19.16	n	11	4.29	w	354.0	54	19.19	n	11	4.28	w	354.0	0.2	e	4	S	۰	g	sb	n	Inspection infield survey continues
Edda Sun	28/05/2020	v	I Smith	10:19	10:50	n	54	19.18	n	11	4.28	w	354.0	54	20.36	n	11	3.54	w	354.0	0.1	se	4	s	۰	9	wf	n	Inspection infield survey continues

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Ship! platform name		Visual watch or PAM?	Observer's / operator's name(s)	Time of start of section of watch (UTC)	Time of end of section of watch (UTC)	Source	Start position - degrees latitude	Start position - minutes latitude	Start position - north/ south	Start position - degrees longitude	Start position - minutes longitude	Start position east/ west	Depth of water at start postion (metres)	End position - degrees latitude	End position - minutes latitude	End position north/ south	End position - degrees longitude	End position - minutes longitude	End position east/ west	Depth of water at end position (metres)	Speed of vessel (knots)	Vind direction	Vind force (Beaufort)	state		Visibility (visual watch only)	(visual watch only)	Precipitat ion	
Edda Sun	28/05/2020	V	I Smith	10:50	11:30	F	54	20.36	n	11	3.54	W	354.0	54	20.36	n	11	3.51	w	354.0	0.1	se	4	S	٥	g	wf	n	Inspection infield survey continues
Edda Sun	28/05/2020	v	I Smith	11:30	12:30	F	54	20.36	n	11	3.51	W	354.0	54	20.38	n	11	3.52	W	354.0	0.1	se	4	S	۰	9	wf	n	Inspection infield survey continues
Edda Sun	28/05/2020	v	I Smith	12:30	13:30	F	54	20.38	n	11	3.52	W	354.0	54	20.36	n	11	3.49	W	354.0	0.0	se	4	S	0	9	wb	n	Inspection infield survey continues
Edda Sun	28/05/2020	V	I Smith	15:00	16:00	f	54	20.34	n	11	3.51	w	354.0	54	29.34	n	11	3.51	W	354.0	0.1	se	4	s	۰	g	sb	n	Inspection infield survey continues
Edda Sun	29/05/2020	v	I Smith	5:00	5:15	f	54	20.38	n	11	3.51	w	354.0	54	20.38	n	11	3.51	W	354.0	0.1	se	6	С	0	g	n	n	Inspection infield survey continues
Edda Sun	29/05/2020	U	LSmith	5:15	6:41	l n	54	20.38	n	11	3.51	w w	354.0	54	20.00	_ n	1 11	2.58	w	354.0	0.1	se	6			a	n	n	FCV up transit to different site, Lynx left in the water
						- "			- "																				Start Environmental sampling. USBL
Edda Sun	29/05/2020	V	I Smith	6:41	6:45	F	54	20.00	n	11	2.58	W	354.0	54	20.00	n	11	2.58	W	354.0	0.1	s	6	С	m	9	n	n	used FCV recovered as camera
Edda Sun	29/05/2020	· ·	I Smith	6:45	7:45	l n	54	20.00	n	11	2.58	l w	354.0	54	20.00	١,	"	2.58	w	354.0	0.0	<	6		m	n n	n	n	breakdown
									- "																				
Edda Sun	29/05/2020	v	I Smith	7:45	8:40	f	54	20.00	n	11	2.58	W	354.0	54	20.03	n	11	2.57	W	354.0	0.1	s	6	С	m	9	n	n	FCV deployed again, resume survey
Edda Sun	29/05/2020	v	I Smith	8:40	9:30	F	54	20.03	n	11	2.57	W	354.0	54	19.98	n	11	2.55	W	354.0	0.0	s	6	С	m	9	wf	n	Environmental survey
Edda Sun	29/05/2020	V	I Smith	9:30	10:05	f	54	19.98	n	11	2.55	W	354.0	54	19.98	n	11	2.50	w	354.0	0.2	s	6	С	m	g	wf	n	Environmental survey
Edda Sun	29/05/2020	U	I Smith	10:05	10:33	l n	54	19.98	n	11	2.50	w w	354.0	54	19.95	l ,	1 11	4.28	ω	354.0	0.4	<	6			a	sb	n	Transit to F3, FCV recovered to deck
Edda Sun	29/05/2020	Ü	I Smith	12:00	13:00	i i	54	19.94	n	11	4.30	w	354.0	54	20.30	n	- 11	5.03	- w	354.0	0.1		6	6	0	0	sf	n	Environmental survey
Edda Sun	29/05/2020	v	I Smith	13:00	14:00	F	54	20.30	n	11	5.03	w	354.0	54	20.34	n	11	5.06	w	354.0	0.0	s	5		0	0	wf	n	Environmental survey
Edda Sun	29/05/2020	v	ISmith	14:00	16:20	F	54	20.34	n	11	5.06	w	354.0	54	20.15	n	11	3.83	w	354.0	0.2	s	5	0	m	0	sf	n	Environmental survey
Edda Sun	29/05/2020	-	I Smith	16:20	17:00	i	54	20.15	n	11	3.83	ω	354.0	54	20.13	- "	11	3.84	w	354.0	0.1	SW	4	0		0	sf	n	Environmental survey
Edda Sun	30/05/2020	v	I Smith	5:00	6:30	F	54	20.91	n	11	2.87	w	354.0	54	20.74	n	11	2.22	w	354.0	0.1	s	4	s		m	n	n	Environmental surveu
Edda Sun	30/05/2020	v	I Smith	6:30	7:30	F	54	20.74	n	11	2.22	w	354.0	54	20.72	n	- 11	2.26	w	354.0	0.0	s	4	s		m	n	n	Environmental survey
Edda Sun	30/05/2020	v	I Smith	7:30	8:30	F	54	20.72	n	11	2.26	w	354.0	54	21.24	n	11	1.99	w	354.0	0.0	s	3	s	0	g	wf	n	Environmental survey
Edda Sun	30/05/2020	v	I Smith	8:30	9:30	F	54	21.24	n	11	1.99	W	354.0	54	21.24	n	11	2.00	w	354.0	1.0	se	4	s	0	g	sf	n	Environmental survey
Edda Sun	30/05/2020	v	I Smith	9:30	10:30	F	54	21.24	n	11	2.00	w	354.0	54	21.24	n	11	1.99	w	354.0	0.1	se	4	s	0	9	sf	n	Environmental survey
Edda Sun	30/05/2020	v	I Smith_	11:00	11:40	n	54	21.13	<u>n</u>	11	2.20	w	354.0	54	20.35	<u>n</u>	11	3.54	w	354.0	5.6	se	3	s	°	9	n	n	Environmental survey Lynx 42 deployed survey to replace
Edda Sun	30/05/2020	v	I Smith	11:40	12:50	F	54	20.35	n	11	3.54	w	354.0	54	20.35	n	11	3.54	w	354.0	0.1	se	2	s	0	g	sf	n	manifold canopy.
Edda Sun	30/05/2020	v	I Smith	14:30	15:30	f	54	20.35	n	11	3.54	w	354.0	54	20.33	n	11	3.53	w	354.0	0.1	se	2	s	0	g	wf	n	replace manifold canopy.
Edda Sun	30/05/2020	v	I Smith	15:30	16:40	f	54	20.33	n	11	3.53	w	354.0	54	20.33	n	11	3.53	w	354.0	0.0	s	1	s	m	g	wf	n	Inspection infield survey continues
Edda Sun	30/05/2020	v	I Smith	16:40	5:00	f	54	20.33	n	11	3.53	w	354.0	54	21.49	n	10	59.03	w	354.0	0.0	SW	2	s	۰	g	sf	n	Inspection infield survey continues
Edda Sun	31/05/2020	v	I Smith	5:00	6:50	F	54	21.49	n	10	59.03	w	354.0	54	21.49	n	10	59.01	w	354.0	0.0	s	3	s	0	g	sf	n	Inspection infield survey continues
Edda Sun	31/05/2020	v	I Smith	6:50	8:00	f	54	21.49	n	10	59.01	w	354.0	54	21.44	n	10	59.73	w	354.0	0.6	sw	3	s	0	g	sf	n	Inspection infield survey continues
Edda Sun	31/05/2020	v	I Smith	8:00	9:15	F	54	21.44	n	10	59.73	w	354.0	54	21.30	n	10	1.13	w	354.0	0.1	w	1	s	m	g	sf	n	Rock dumping free span infills
Edda Sun	31/05/2020	v	l Smith	9:15	10:15	f	54	21.30	n	10	1.13	w	354.0	54	21.30	n	10	1.26	w	354.0	1.1	n	1	s	m	g	wf	n	Rock dumping free span infills
Edda Sun	31/05/2020	v	I Smith	10:15	11:30	f	54	21.30	n	10	1.26	W	354.0	54	21.44	n	10	59.84	w	354.0	0.1	ne	2	s	٥	g	wf	n	Rock dumping free span infills
Edda Sun	31/05/2020	v	I Smith	12:30	13:30	F	54	21.44	n	10	1.27	w	354.0	54	20.59	n	10	1.26	w	354.0	0.2	e	2	s	0	g	wb	n	Rock dumping free span infills
Edda Sun	31/05/2020	v	l Smith	13:30	14:35	F	54	20.59	n	10	1.26	w	354.0	54	21.49	n	10	59.04	w	354.0	0.1	ne	3	s	0	9	wb	n	Rock dumping free span infills
Edda Sun	31/05/2020	v	l Smith	14:35	15:50	F	54	21.49	n	10	59.04	w	354.0	54	21.45	n	10	59.82	W	354.0	0.4	ne	5	s	0	g	sf	n	Rock dumping free span infills
Edda Sun	31/05/2020	v	I Smith	15:50	16:40	F	54	21.45	n	10	59.82	W	354.0	54	21.42	n	11	0.33	W	354.0	1.2	ne	4	s	m	9	sb	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	l Smith	5:00	6:10	F	54	21.01	n	10	51.43	w	354.0	54	21.01	n	10	51.43	W	354.0	0.0	ne	3	s	0	9	sf	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	I Smith	6:10	6:45	n	54	21.01	n	10	51.43	w	354.0	54	21.12	n	10	56.17	w	354.0	0.6	se	2	s	0	9	sf	n	Rock dumping free span infills
Edda Sun	01/06/2020	V	I Smith	6:45	7:10	n	54	21.12	n	10	56.17	W	354.0	54	21.28	n	- 11	1.33	w	354.0	8.0	sw	3	s	m	9	sb	n	Rock dumping free span infills

Ship/ platform name	-	Visual watch or PAM?	Observer's / operator's name(s)	Time of start of section of watch (UTC)	Time of end of section of watch (UTC)	Source activity	Start position - degrees latitude	Start position - minutes latitude	Start position - north/ south	Start position - degrees longitude	Start position - minutes longitude	Start position east/ west	Depth of water at start postion (metres)	End position - degrees latitude	End position - minutes latitude	End position - north/ south	End position - degrees longitude	End position - minutes longitude	End position east/ west	Depth of water at end position (metres)	Speed of vessel (knots)		Vind force (Beaufort)		Swell	Visibility (visual watch only)	Sun glare (visual watch only)	Precipitat ion	Comments
Edda Sun	01/06/2020	v	I Smith	7:10	7:23	n	54	21.28	n	11	1.33	v	354.0	54	21.28	n	11	1.33	w	354.0	0.1	se	3	s	m	g	sf	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	l Smith	7:23	8:30	f	54	21.28	n	11	1.33	w	354.0	54	21.17	n	10	59.08	W	354.0	0.0	se	3	s	٥	g	sf	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	l Smith	8:30	10:40	F	54	21.17	n	10	59.08	w	354.0	54	21.50	n	11	57.59	W	354.0	1.4	se	3	s	0	g	sf	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	I Smith	10:40	12:05	F	54	21.50	n	11	57.59	w	354.0	54	21.22	n	10	54.79	W	354.0	0.1	se	2	s	۰	9	wf	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	I Smith	12:05	12:35	F	54	21.22	n	10	54.79	w	354.0	54	21.23	n	10	54.75	W	354.0	0.4	sw	2	s	0	9	wf	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	l Smith	12:35	12:59	n	54	21.23	n	10	54.75	W	354.0	54	21.03	n	10	51.52	W	287.0	0.1	sw	4	s	0	g	wf	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	I Smith	12:59	13:41	f	54	21.03	n	10	51.52	W	287.0	54	21.02	n	10	50.31	W	265.0	0.1	sw	3	s	0	g	wb	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	I Smith	13:41	14:00	n	54	21.02	n	10	50.31	w	265.0	54	20.86	n	10	49.12	w	265.0	10.4	s	3	s	0	g	wb	n	Rock dumping free span infills
Edda Sun	01/06/2020	v	I Smith	14:00	15:28	n	54	20.86	n	10	49.12	w	265.0	54	19.17	n	10	27.38	w	126.0	10.4	s	3	s	0	g	wb	n	Rock dumping free span infills
Edda Sun	01/06/2020	۰	I Smith	15:28	16:25	0	54	19.17	n	10	27.38	w	126.0	54	17.69	n	10	11.03	W	64.0	11.3	se	3	8	0	g	sb	n	Transit to Env locations
Edda Sun	01/06/2020	v	I Smith	16:25	16:53	n	54	17.69	n	10	11.03	W	64.0	54	17.69	n	10	11.03	W	94.0	0.1	W	3	s	0	g	wf	n	Environmental survey
Edda Sun	01/06/2020	v	I Smith	16:53	17:00	f	54	17.69	n	10	11.03	W	94.0	54	17.69	n	10	11.03	W	94.0	0.1	W	3	s	0	g	sf	n	Environmental survey
Edda Sun	02/06/2020	v	I Smith	17:17	20:10	n	54	17.69	n	10	11.03	w	91.0	54	19.97	n	10	1.63	w	77.0	1.2	w	3	s	0	g	sf	n	Transit to Env locations
Edda Sun	02/06/2020	٧	I Smith	5:00	5:33	F	54	19.95	n	9	59.56	w	73.0	54	19.95	n	9	59.56	w	73.0	0.1	w	3	s	0	р	a a	n	Environmental survey
Edda Sun	02/06/2020	۸	I Smith	5:33	5:50	0	54	19.95	n	9	59.56	W	73.0	54	19.95	n	9	59.56	W	73.0	0.1	w	4	w	0	Р	٥	n	Transit to Env locations
Edda Sun	02/06/2020	٧	I Smith	5:50	6:39	F	54	19.95	n	9	59.56	W	73.0	54	19.95	n	9	59.56	W	73.0	0.1	SW	4	s	0	Р	n	n	Environmental survey
Edda Sun	02/06/2020	v	I Smith	6:39	7:00	n	54	19.95	n	9	59.56	w	73.0	54	21.38	n	9	59.20	W	82.0	0.1	w	4	s	0	g	n	n	Transit to Env locations
Edda Sun	02/06/2020	v	I Smith	7:00	8:00	F	54	21.38	n	9	59.20	w	82.0	54	21.38	n	9	59.20	w	83.5	0.0	w	4	s	0	g	n	n	Environmental survey
Edda Sun	02/06/2020	v	I Smith	8:00	8:06	F	54	21.38	n	9	59.20	w	83.5	54	21.38	n	9	59.20	w	83.5	0.0	w	4	s	0	g	n	n	Environmental survey
Edda Sun	02/06/2020	v	I Smith	8:06	8:31	n	54	21.38	n	9	59.20	w	83.5	54	19.94	n	9	57.14	W	63.0	0.0	w	4	s	0	g	n	n	Transit to Env locations
Edda Sun	02/06/2020	v	I Smith	8:31	10:06	F	54	19.94	n	9	57.14	W	63.0	54	19.85	n	9	57.15	W	60.7	0.0	W	4	s	0	g	n	n	Environmental survey
Edda Sun	02/06/2020	v	I Smith	10:06	10:45	F	54	19.85	n	9	57.15	w	60.7	54	20.21	n	9	52.51	W	50.0	1.2	w	3	s	0	g	n	n	Environmental survey
Edda Sun	02/06/2020	v	I Smith	10:45	11:23	F	54	20.21	n	9	52.51	w	50.0	54	17.93	n	9	54.73	W	42.0	1.1	w	4	s	0	g	n	n	Environmental survey
Edda Sun	02/06/2020	۰	I Smith	11:23	12:18	n	54	17.93	n	9	54.73	w	42.0	54	16.97	n	9	52.27	W	27.0	7.7	sw	4	s	0	g	٥	n	Transit to Umbilical survey
Edda Sun	02/06/2020	v	l Smith	12:18	13:20	f	54	16.97	n	9	52.27	w	27.0	54	16.98	n	9	52.47	W	28.0	0.0	W	4	s	0	g	n	n	Umbilical survey
Edda Sun	02/06/2020	v	I Smith	13:20	14:17	f	54	16.98	n	9	52.47	w	28.0	54	16.99	n	9	52.82	W	28.0	0.5	nw	4	s	0	g	n	n	Umbilical survey

Operations Form – *Edda Sun*

Ship/ platform name	Date	Reason for firing	Time soft start/ ramp- up began (UTC)	Time of full power (UTC)	Time of start of line (UTC)	Time of end of line (UTC)	Time of reduced output (UTC) (if relevant)	Time airguns/ source stopped (UTC)	Time pre- shooting search began (UTC)	Time search ended (UTC)	Depth range	Was it day or night in the period prior to firing?	Was any mitigating action required?	Comments
Edda Sun	07/05/2020	Ι	16:50	16:50					15:50	16:50	d	d	n	ROV deployed, USBL activated. Not possible to ramp up UBSL system. Essential for positioning
Edda Sun	08/05/2020	1									d	d	n	continuous inspection/maintenance work
Edda Sun	09/05/2020	I									d	d	n	continuous inspection/maintenance work
Edda Sun	10/05/2020	I						4:40			d	d	n	Operation stopped for weather at 04:40.
Edda Sun	11/05/2020	I	4:35	4:35				13:25	3:50	3:35	d	w	n	ROV deployed, USBL activated. Not possible to ramp up UBSL system. Essential for positioning., 13:25 Lynx 42 back to deck and shut down during ship to ship transfer of crate. Suspend inspection.
Edda Sun	11/05/2020	1	14:20	14:20					13:25	14:20	d	d	n	Complete transfer, relocate to P1 well and recommence inspection survey. USBL full power
Edda Sun	12/05/2020	1									d	d	n	Continue inspection
Edda Sun	13/05/2020	1	14:05	14:05				13:35	13:35	14:05	d	d	n	Relocated to P5 well
Edda Sun	14/05/2020	Ι		5:28				5:00	5:00	5:30	d	w	n	Relocated from well P2 to start of Pipeline
Edda Sun	15/05/2020	1		18:45				18:16	18:20	18:50	d	d	n	Operations suspended for Vessel to Vessel transfer and resume continue 20" Pipeline inspection
Edda Sun	16/05/2020	I		8:25				7:51	7:51	8:25	d	d	n	Vessel move 3.1km to re-run part of survey
Edda Sun	16/05/2020	1		10:15				10:00	10:00	10:25	d	d	n	Vessel move to return to carry on survey
Edda Sun	17/05/2020	1									d	d	n	
Edda Sun	18/05/2020	1		9:43				9:05	9:05	9:43	d	d	n	FCV recovered for routine maintenance.
Edda Sun	19/05/2020	1		14:20				13:52	13:52	14:20	d	d	n	FCV recovered for and Lynx 42 deployed.
Edda Sun	20/05/2020	1		5:47				5:00	5:00	5:47	d	d	n	FCV recovered for and Lynx 31 deployed.

Ship/ platform name	Date	Reason for firing	Time soft start/ ramp- up began (UTC)	Time of full power (UTC)	Time of start of line (UTC)	Time of end of line (UTC)	Time of reduced output (UTC) (if relevant)	Time airguns/ source stopped (UTC)	Time pre- shooting search began (UTC)	Time search ended (UTC)	Depth range	Was it day or night in the period prior to firing?	Was any mitigating action required?	Comments
Edda Sun	20/05/2020	1						12:03	12:30	13:00	d	d	n	FCV recovered to reconfigure. Then WOW
Edda Sun	20/05/2020	1		18:35					18:00	18:35	d	d	n	Recommenced survey
Edda Sun	21/05/2020	1		8:12				7:03	6:53	8:12	d	d	n	Vessel move 1km
Edda Sun	21/05/2020	1		13:32				12:39	12:39	13:32	d	d	n	Reconfigure FCV and Vessel move 1.6km
Edda Sun	21/05/2020	1						21:00			d	d	n	Cease operations, recover equip, transit to shelter, WOW
Edda Sun	22/05/2020	1									S	d	n	WOW Mullaghmoe Bay
Edda Sun	23/05/2020	1									s	d	n	WOW Mullaghmoe Bay
Edda Sun	24/05/2020	1									s	d	n	WOW Alongside Killybegs
Edda Sun	25/05/2020	I									s	d	n	WOW Alongside Killybegs
Edda Sun	26/05/2020	1									s	d	n	WOW Alongside Killybegs
Edda Sun	27/05/2020	1		4:35					4:00	4:35	d	w	n	Transit to Corrib Site and resume survey operations
Edda Sun	27/05/2020	1		15:48				15:16	15:16	15:48	d	d	n	FCV recovered to deck, vessel move to new location.
Edda Sun	27/05/2020	1		16:12				15:58	15:58	16:12	d	d	n	Break of less than 30mins
Edda Sun	28/05/2020	1		10:50				10:19	10:19	10:50	d	d	n	Vessel move to the Manifold
Edda Sun	29/05/2020	1		5:41				5:15	5:15	5:41	d	w	n	Transit to manifold
Edda Sun	29/05/2020	1		7:45				6:45	6:45	7:45	d	d	n	Repair faulty camera on FCV
Edda Sun	29/05/2020	1		10:33				10:05	10:05	10:33	d	d	n	Transit to another location
Edda Sun	30/05/2020	1		11:40				11:00	11:00	11:40	d	d	n	Relocate vessel to Manifold
Edda Sun	31/05/2020	1									d	d	n	
Edda Sun	01/06/2020	1		7:23				6:10	6:10	7:23	d	d	n	Relocate vessel to next sapling station

Ship/ platform name	Date	Reason for firing	Time soft start/ ramp- up began (UTC)	Time of full power (UTC)	Time of start of line (UTC)	Time of end of line (UTC)	Time of reduced output (UTC) (if relevant)	Time airguns/ source stopped (UTC)	Time pre- shooting search began (UTC)	Time search ended (UTC)	Depth range	Was it day or night in the period prior to firing?	Was any mitigating action required?	Comments
Edda Sun	01/06/2020	1		12:59				12:35	12:35	12:59	d	d	n	Relocate vessel to next sapling station
Edda Sun	01/06/2020	1		16:58				13:41	13:41	16:58	d	d	n	Relocate vessel to next sapling station
Edda Sun	01/06/2020	1		20:10				17:17	17:17	20:10	d	d	n	Relocate vessel to next sapling station
Edda Sun	02/06/2020	1		8:31				8:06	8:06	8:31	d	d	n	
Edda Sun	02/06/2020	1		12:18				11:23	11:23	12:18	d	d	n	End of Survey