

Dumping at Sea Annual Environmental Report (AER) 2020

Permit Register Number: S0011-03

Permit Holder: Donegal Co. Council

Address: County House, The Diamond, Lifford, Co. Donegal
F94 DK6C

Location of Loading: Buncrana Harbour, Buncrana, Co.
Donegal

Location of Dumping: Buncrana Harbour, Buncrana, Co.
Donegal

Declaration

I, Cathal Sweeney, Executive Engineer, Donegal Co. Council, confirm that by ticking the box below, all the information provided in this report is truthful, accurate and complete to the best of my knowledge and belief.

In addition, I confirm that all monitoring and performance reporting and summarised herein is available for inspection by the EPA.

Tick here



Annual Environmental Report 2020

Buncrana Harbour

Dumping at Sea Permit S0011-03



ISSUE FORM	
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1 INTRODUCTION

Donegal County Council (DCC) was granted a Dumping at Sea (DaS) Permit (Reg. No. S0011-03) by the Environmental Protection Agency (EPA) in July 2018. The Permit allows for maintenance dredging at Buncrana Harbour in County Donegal for up to 8,000 tonnes of material each year for eight years (a maximum of 64,000 tonnes), in addition to the material's subsequent disposal at sea by plough dredging.

Condition 6.7 of the Permit requires DCC to submit an Annual Environmental Report (AER) as follows: *“The permit holder shall submit electronically to the Agency, by the 31st March of each year an AER covering the previous calendar year. This report shall include as a minimum the information specified in Schedule D: Annual Environmental Report, of this permit, and shall be prepared in accordance with any relevant guidelines issued by the Agency or as otherwise prescribed by the Agency”.*

SCHEDULE D: Content of Annual Environmental Report

Annual Environmental Report Content

- Register/log of dumping activities**
- OSPAR dumping report**
- Reported incidents summary**
- Complaints summary**
- Monitoring summary**
- Marine Mammal Monitoring Report**
- Accident Prevention Procedure**
- Emergency Response Procedure**
- Investigation of alternative re-uses summary**
- Any other items specified by the Agency**

The Dumping at Sea Permit application was prepared by Malachy Walsh and Partners (MWP) Engineering and Environment Consultants on behalf of Donegal County Council. MWP have also prepared this Annual Environmental Report (AER).

2 BACKGROUND

The purpose of dredging at Buncrana Pier is to re-establish and maintain a safe and navigable water depth within the approach channel and at the main berths. The material to be dredged consists of recently deposited clean sediment from within the berthing area on the south face of Buncrana Pier and the approach channel to Buncrana Harbour. The method of dredging and disposal involves plough dredging the material out to a large area of deep channel located beyond the -2m CD contour where it will settle out.

It is envisaged that dredging will be undertaken twice a year with each campaign lasting 7 to 12 days, subject to tides and weather.

The dredge/loading area and the disposal/dumping area are shown in **Figure 1** and **Figure 2**, respectively. The dredge area measures approximately 1.45 ha and includes the approach channel to the pier and slipway, and the main berths at the pier. The dumping area is approximately 27.45 ha and

encompasses the area surrounding the pier and slipway, extending northwest, due west and southwest.



Figure 1: Loading/Dredging Area at Buncrana Harbour



Figure 2: Disposal/Dumping Area located approximately 160m from Buncrana Harbour

3 REGISTER/LOG OF DREDGING/LOADING & DUMPING ACTIVITIES

There were two dredging campaigns undertaken in 2020. The first took place over 10 days from the 17th June to the 20th June, and from the 22nd June to the 27th June, and removed a total of 3055.88 tonnes of material. The second campaign lasted 12 days and occurred from the 30th June to 4th July, from the 7th July to 11th July, and the 13th and 14th July, and removed 3341.18 tonnes of material – refer to **Table 1** below for daily volume of material dredged and to **Appendix 1** for further details. Spoil area geodetic summaries for each dredging date are also available in **Appendix 1**.

The vessel used was the Lough Swilly Marine Dredging Vessel named the *Otterbank* (MMSI 235000616), operating a towed plough. The work involved the removal of dredged material from the pier vicinity and its subsequent dumping at a designated location approximately 160 m from the end of the pier. In accordance with Condition 2.2 of the Permit, dumping was undertaken during daytime hours to protect otter (*Lutra lutra*).

Table 1: Daily quantities (tonnes) of material dredged in summer 2020

Dredging Campaign	Date	Total Quantity Removed (MT)
First Campaign	17 th June 2020	412.10
	18 th June	399.42
	19 th June	253.60
	20 th June	177.52
	22 nd June	183.86
	23 rd June	361.38
	24 th June	443.80
	25 th June	310.66
	26 th June	202.88
	27 th June	310.66
	<u>TOTAL</u>	<u>3055.88</u>
Second Campaign	30 th June 2020	374.06
	1 st July	291.64
	2 nd July	310.66
	3 rd July	336.02
	4 th July	209.22
	7 th July	323.34
	8 th July	247.26
	9 th July	374.06
	10 th July	107.78
	11 th July	348.70
	13 th July	69.74
	14 th July	348.7
		<u>TOTAL</u>
Total Quantity of Material Removed in 2020		6397.06 tonnes

4 OSPAR DUMPING REPORT

The OSPAR Dumping Report is included in **Appendix 2** of this report.

5 REPORTED INCIDENTS SUMMARY

There were no reported incidents during the dredge campaign. The Accident Prevention Procedure is detailed in **Section 9**, below, while the Emergency Response Procedure is detailed in **Section 10**.

A copy of Donegal County Council Incident Reporting and Investigation Forms are included in **Appendix 3**.

6 COMPLAINTS SUMMARY

There were no complaints during the dredge campaign.

7 MONITORING SUMMARY

The monitoring requirements for the Dredging/Loading and Dumping Areas are set out in Condition 4 and Schedule C of the Permit. The following monitoring took place in 2020 as required by the Permit.

Schedule C.1 Monitoring at Plough Dredging Area

Condition 4.4 and Schedule C.1 require Bathymetry Surveys and concurrent tide observations pre- and post-dredging activities.

Survey reports and drawings are provided in **Appendix 4**.

Schedule C.2 Sediment Monitoring

Condition 4.5 and Schedule C.2 set out the sediment monitoring requirements. Condition 4.5.1 requires *“the permit hold shall carry out chemical and granulometric analysis of sediments within the Plough Dredging Sites in 2021 and 2024 in accordance with Schedule C.2 Sediment Monitoring”*. The results must be reported to the Agency within a month and dredging cannot proceed without the agreement of the Agency.

Sediment monitoring was not required during the period of this AER (2019). Repeat granulometric and chemical sampling analysis of the sediment is required every three years, i.e. in 2021 and 2024.

8 MARINE MAMMAL MONITORING

Schedule C.3 Marine Mammal Monitoring

Condition 4.6 and Schedule C.3 set out the marine mammal monitoring requirements. Condition 4.6.1 requires *“the permit holder shall appoint a Marine Mammal Observer who shall meet the monitoring and reporting requirements of the NPWS. Full reporting on Marine Mammal Observer operations and mitigation undertaken should be made to the Agency and offshore@ahg.gov.ie within 1 month of completion of each campaign”*.

John O’Raw, Niamh O’Raw and Éadaoin O’Raw were appointed as Marine Mammal Observers (MMO) by Donegal County Council for the duration of the works. A mitigation zone of 100m from the dredging vessel was in place prior to starting each dredge while observations began a minimum of thirty

minutes before dredging operations began. Copies of the monitoring results and report are included in **Appendix 5**.

9 ACCIDENT PREVENTION PROCEDURE

A Safety Statement for Buncrana Harbour was put in place by The Piers and Harbours Section of Donegal County Council. It was drafted to comply with Section 20 of the Safety, Health and Welfare at Work Act, 2005. It covers activities within the Harbour area as defined in the First Schedule of the "Donegal County Council (Certain Harbours) Bye-Laws 2010. It relates to the Buncrana Harbour Area and covers structures and equipment under the control of Donegal County Council, including piers, slipways, walkways, shared facilities, roads, etc. Employees of Donegal County Council engaged in activities within the Harbour area should familiarise themselves with the safety measures when working in the Harbour area.

In order to safeguard the Safety, Health and Welfare of all those engaged in dredging operations the principles of prevention will be adopted as it is recognised that "prevention is the best cure". These principles include:

- The avoidance of risks
- The evaluation of unavoidable risks
- The combating of risks at source
- The adaptation of work to the individual especially in relation to the design of places of work.
The choice of work equipment and the modification of systems of work
- The adaptation of the place of work to technical progress
- The replacement of dangerous articles, substances or systems of work by less dangerous alternatives
- Prioritising collective measures over individual measures
- The facilitation of training

However, beyond this, it is essential that both employers and employees engaged in dredging operations are aware of their particular duties/responsibilities under the Safety, Health and Welfare at Work Act (SHWWA) 2005.

9.1 DUTIES OF THE EMPLOYER

There is a duty upon all employers engaged in dredging operations in Buncrana Harbour as well as those providing specialist sub-contracting work viz. monitoring etc. to ensure the health, safety and welfare at work of the employees so far as is reasonably practicable. To achieve this, employers shall:

- Manage and conduct the work activities in a safe manner
- Manage and conduct the work activities to prevent improper conduct
- Ensure that the design, provision and maintenance of the place of work (insofar as they are able within the remit of the contract) is safe and without risk to health
- Ensure that there is safe access to and egress from the place of work
- Ensure that tools, equipment and machinery is properly maintained, certified where required and not used where it is unfit for purpose.
- Reduce exposure to noise, vibration, ionising or other radiation, and substances not conducive to good health
- Ensure that the systems of work to complete tasks are properly planned, organised performed, maintained and revised as appropriate.
- Provide and maintain welfare facilities at locations under its control.

- Provide appropriate training, information and supervision.
- Provide suitable personal protective equipment where risks cannot be eliminated.
- Make provisions for procedures to be adopted in the case of an emergency or serious and imminent danger.
- Report accidents and dangerous occurrences.
- Obtaining where necessary the services of a competent person to meet their obligations under the Safety, Health and Welfare at Work Act 2005.

9.2 DUTIES OF THE EMPLOYEE

As well as employers having to take responsibility to ensure dredging operations are carried out in a safe manner to ensure the safety and health of all those who are engaged in the operation, there is also a duty upon every employee to ensure that their actions or omissions do not give rise to a situation where health and safety are compromised. Their duties include the following:

- Take reasonable care to protect their own health and safety as well as the health and safety of any other person affected by their acts or omissions.
- Ensure they are not under the influence of an intoxicant.
- Co-operate with their employer so far as is necessary to enable the employer to comply with the relevant statutory provisions.
- Not engage in improper conduct that is likely to endanger his or her own safety or that of any other person.
- Attend such training as requested by his/her employer.
- Having regard to training and instructions given by the employer, the employee shall make correct use of any article or substance provided for use by the employee
- Report to his/her employer or any other appropriate person as soon as is practicable the following:
 - Any work being carried out, or likely to be carried out in a manner which might endanger the safety, health or welfare at work of the employee or that of any other person
 - Any defect in the place of work, the systems of work, any article or substance which might endanger the safety, health or welfare at work of the employee or that of any other person
 - Any contravention of the relevant statutory provisions which may endanger the safety, health and welfare at work of the employee or that of any other person.
- Abide by their work conditions which are specific to the position they hold.
- Abide by site specific safety plans
- Take all reasonable steps to ensure their own safety and that of others when carrying out their tasks.
- Comply with all aspects of relevant statutory instruments whilst carrying out their tasks.
- Ensure all ongoing works are left in a safe secure state and where this is not possible to safeguard uninvited access.

Specific preventative measures involving dredging operations shall include:

- Only going to sea when it is safe to do so
- Load the vessel evenly so as to not unduly exert it to forces which could render the vessel unstable in the water.
- Inform other sea farers of dredging operations in advance of commencement.
- Have on board a signalling system which can be easily deployed to the emergency services if danger looms

- Have on board a horn to warn off other vessels if they are encroaching too close to the dredging vessels
- Vessels carrying out dredging operations shall be well lit up when working during hours of darkness.
- Ensure that the material is deposited at the designated dumpsite only and does not leak during transport operations.

10 EMERGENCY RESPONSE PROCEDURE

The most likely scenarios from an environmental viewpoint where an emergency response would be required would be the following:

- (1) Release of material whilst being transported to dump area/site**
- (2) Dredger going on fire**
- (3) Oil spill from dredging vessel**
- (4) Dredger sinking/going aground**

(1) Release of material whilst being transported to dump area/site

In the event of release of material whilst going to sea operations will be halted until such time as the leak remains unresolved or until a suitable fully functioning replacement vessel is deployed to carry out the operation. The Department of Agriculture, Food and Marine and the Environmental Protection Agency are to be informed as is the Environmental Section of Donegal County Council. The response of the marine mammal observer will be considered. Following discussions with all parties, guidance will be taken as to what other stakeholders are to be notified.

(2) Dredger going on fire

Should the dredger go on fire the emergency services will be called upon to save life. The environmental fallout of such an event should be minimised as the cargo is inert and the silt is encapsulated by water. Immediate firefighting action will be undertaken by crew members for as long as possible. Depending on the scale of the fire the vessel ought to be brought back to port where the emergency services firefighting services can tackle the blaze. The response of the marine mammal observer will be considered. In such an event guidance will be taken from the Chief Fire Officer of Donegal County Council and/or Department of Agriculture, Food and the Marine as to what is the best policy to save life and reduce the potential damage to the environment.

(3) Oil spill from dredging vessel

An oil spill from the dredger is a possibility, albeit small, as any adjacent rock outcrops are well marked, they appear on all the navigational charts and the vessel should not be travelling where water depth is less than her draft. Should oil be released because of an accident, Donegal County Council has a range of equipment including booms to help contain and gather any oil spillages. Equipment will also be deployed from the council's stock from Greencastle Harbour with additional equipment maintained by the Coast Guard at Killybegs Harbour. The Coast Guard will also be contacted to provide assistance with clean-up operations as well as making sure other vessels in the area are made aware of the problem. The Environmental Protection Agency and the Sea Fisheries Protection Authority will be notified, and the response of the marine mammal observer will be taken into account. Guidance from these authorities in conjunction with that received from the emergency services will be followed to help alleviate the threat to the marine environment.

(4) Dredger sinking/going aground

The likelihood of the dredging vessel going aground or sinking is very slight but has to be considered. The rock outcrops are well marked, and the vessel itself is fitted with the latest sonar,

telecommunication and computerised system to readily detect any unknowns in the water and stay out of trouble. Following on from the deployment of the Coast Guard and emergency services to save life the threat to the environment is dependent on what damage has taken place to the structure of the vessel as well as the location of the sinking/grounding. The most likely source of a threat to the marine environment is from an oil spill and the procedures outlined above will be put into play.

In all the above, the advice from the vessels' operators and insurers would also have to be considered when weighing up the optimum measures to reduce the impact on the marine environment.

11 INVESTIGATION OF ALTERNATIVE RE-USES

Several alternative approaches to Dumping at Sea (DaS) by means of plough dredging/bed levelling adjacent to Buncrana Pier were examined as part of the DaS permit application, namely:

- a) Disposal on land at a waste facility
- b) Deposit within a marine structure
- c) Land reclamation on the coast or inland
- d) Re-use on land in combination with another activity, e.g. agriculture
- e) Disposal at Sea – at existing permitted DaS sites within the estuary or further afield.

In some ports and depending on the tidal regime, currents and the volume, other approaches such as these may suit. Another limiting factor is the availability of suitable dump sites or facilities on land.

The situation at Buncrana Pier is ideally suited to the use of a plough dredger as it poses less risk in terms of weather and availability and is a proven method of dredging that has been used successfully within Lough Swilly and at Buncrana Bay in the past.

Maintaining consistent navigable depths at the pier is essential to provide continuous access for the RNLI Lifeboat. A plough can be easily deployed and has greater flexibility in terms of the time frame for deployment at the harbour, particularly when a storm or flood event will have caused immediate accumulation of material within the harbour. The option of procuring a dredger to come to port from a distant location to remove small quantities of material in a swift and cost-effective manner is very difficult.

It was concluded that the use of a plough dredger as has been used for many years has proven to be the optimal approach for dredging at Buncrana Harbour. This method ensures local deposition within the designated dump site area with no negative environmental effects.

Appendix 1

Dredging Summaries & Spoil Area Geodetic Summaries

FIRST CAMPAIGN

Name OTTERBANK
MMSI 235000616
Plough Load 3.17
Relative Density 2

UTC

Start	Finish	Duration	Minutes	Loads	Volume	Tonnes	
17/06/2020 07:28	17/06/2020 18:44	11.27	676	65	206	412.1	
18/06/2020 06:31	18/06/2020 08:25	1.90	114	16	51	101.44	
18/06/2020 12:20	18/06/2020 18:39	6.32	379	47	149	297.98	
19/06/2020 06:26	19/06/2020 08:30	2.07	124	16	51	101.44	
19/06/2020 15:30	19/06/2020 18:30	3.00	180	24	76	152.16	
20/06/2020 06:30	20/06/2020 09:15	2.75	165	28	89	177.52	
22/06/2020 15:22	22/06/2020 18:25	3.05	183	29	92	183.86	
23/06/2020 06:35	23/06/2020 10:35	4.00	240	39	124	247.26	
23/06/2020 16:52	23/06/2020 18:38	1.77	106	18	57	114.12	
24/06/2020 06:34	24/06/2020 12:37	6.05	363	47	149	297.98	
24/06/2020 16:43	24/06/2020 18:51	2.13	128	23	73	145.82	
25/06/2020 07:05	25/06/2020 12:18	5.22	313	47	149	297.98	
25/06/2020 17:50	25/06/2020 18:06	0.27	16	2	6	12.68	
26/06/2020 10:49	26/06/2020 13:37	2.80	168	23	73	145.82	
26/06/2020 17:49	26/06/2020 18:41	0.87	52	9	29	57.06	
27/06/2020 07:24	27/06/2020 13:54	6.50	390	49	155	310.66	
				Totals	482	1527.94	3055.88

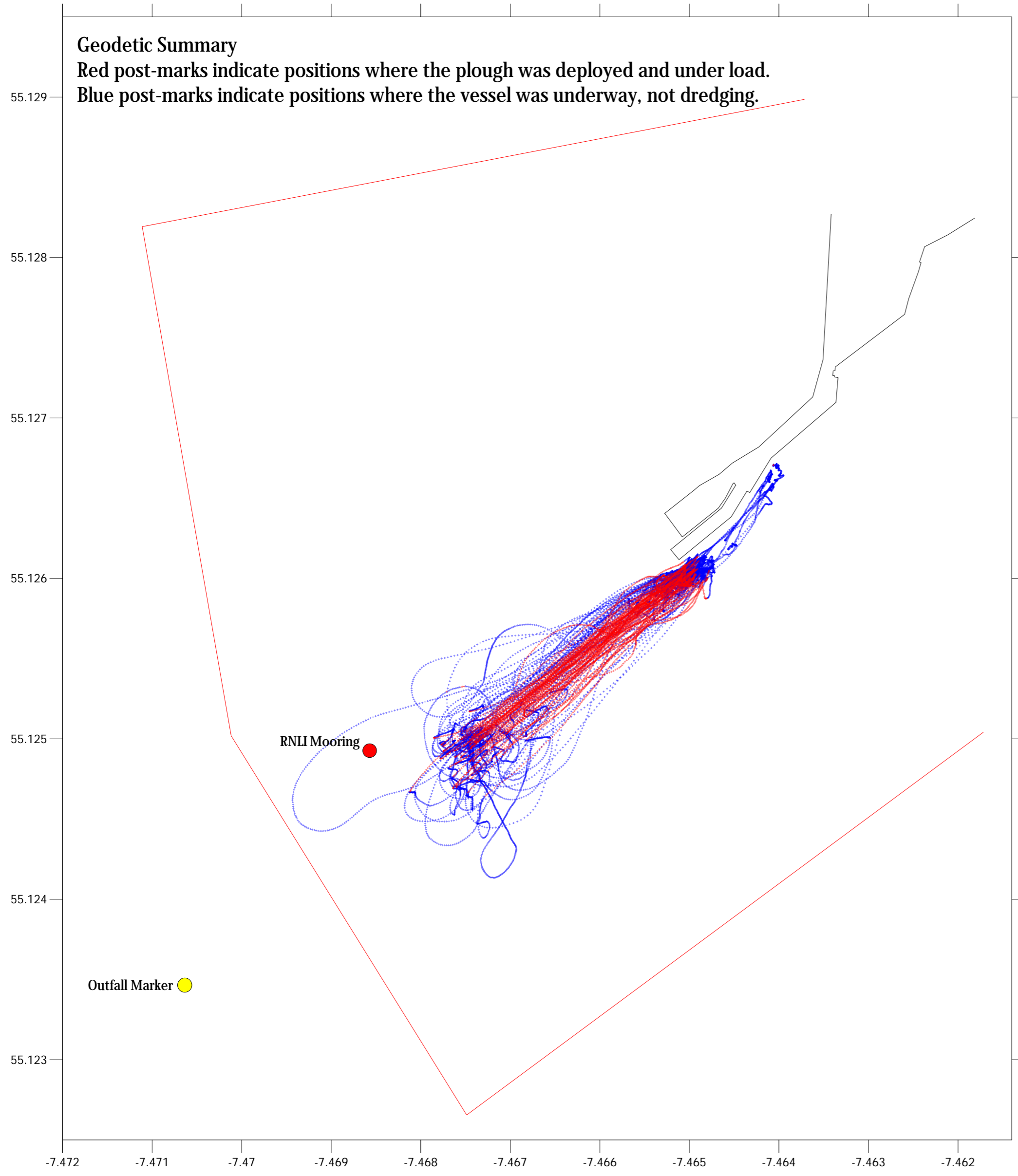
SECOND CAMPAIGN

Name OTTERBANK
MMSI 235000616
Plough Load 3.17
Relative Density 2

Start	UTC		Duration	Minutes	Loads	Volume	Tonnes
	Start	Finish					
30/06/2020 10:20	30/06/2020 10:20	30/06/2020 17:57	7.62	457	59	187	374.06
01/07/2020 11:05	01/07/2020 11:05	01/07/2020 18:38	7.55	453	46	146	291.64
02/07/2020 06:12	02/07/2020 06:12	02/07/2020 07:20	1.13	68	8	25	50.72
02/07/2020 12:44	02/07/2020 12:44	02/07/2020 18:46	6.03	362	41	130	259.94
03/07/2020 06:35	03/07/2020 06:35	03/07/2020 08:35	2.00	120	16	51	101.44
03/07/2020 13:20	03/07/2020 13:20	03/07/2020 18:20	5.00	300	37	117	234.58
04/07/2020 06:19	04/07/2020 06:19	04/07/2020 09:10	2.85	171	19	60	120.46
04/07/2020 14:03	04/07/2020 14:03	04/07/2020 16:33	2.50	150	14	44	88.76
07/07/2020 06:16	07/07/2020 06:16	07/07/2020 11:10	4.90	294	32	101	202.88
07/07/2020 15:48	07/07/2020 15:48	07/07/2020 18:50	3.03	182	19	60	120.46
08/07/2020 06:21	08/07/2020 06:21	08/07/2020 11:40	5.32	319	28	89	177.52
08/07/2020 16:26	08/07/2020 16:26	08/07/2020 18:43	2.28	137	11	35	69.74
09/07/2020 06:20	09/07/2020 06:20	09/07/2020 12:02	5.70	342	40	127	253.6
09/07/2020 17:17	09/07/2020 17:17	09/07/2020 18:46	1.48	89	19	60	120.46
10/07/2020 06:31	10/07/2020 06:31	10/07/2020 10:55	4.40	264	13	41	82.42
10/07/2020 12:00	10/07/2020 12:00	10/07/2020 12:50	0.83	50	4	13	25.36
11/07/2020 06:36	11/07/2020 06:36	11/07/2020 13:53	7.28	437	55	174	348.7
				Totals	461	1461.37	2922.74
13/07/2020 07:41	13/07/2020 07:41	13/07/2020 16:25	8.73	524	11	35	69.74
14/07/2020 08:12	14/07/2020 08:12	14/07/2020 17:38	9.43	566	55	174	348.7
				Totals	748	209.22	418.44

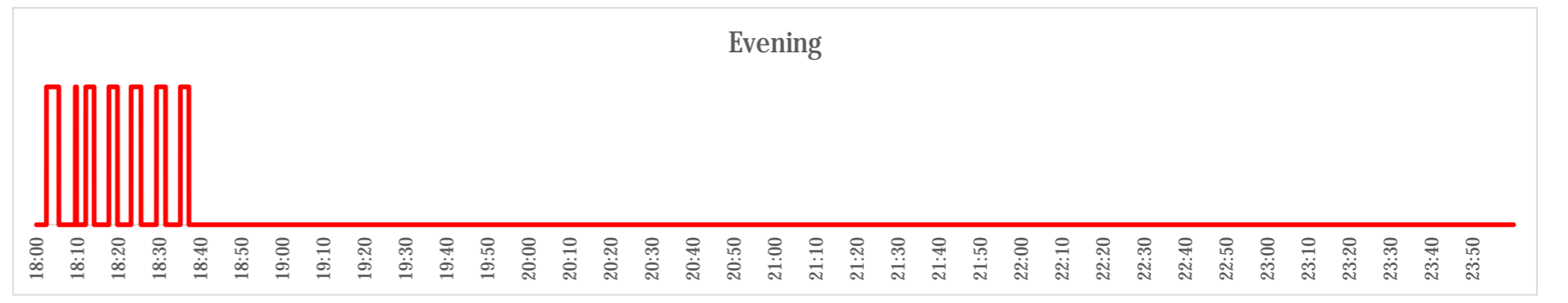
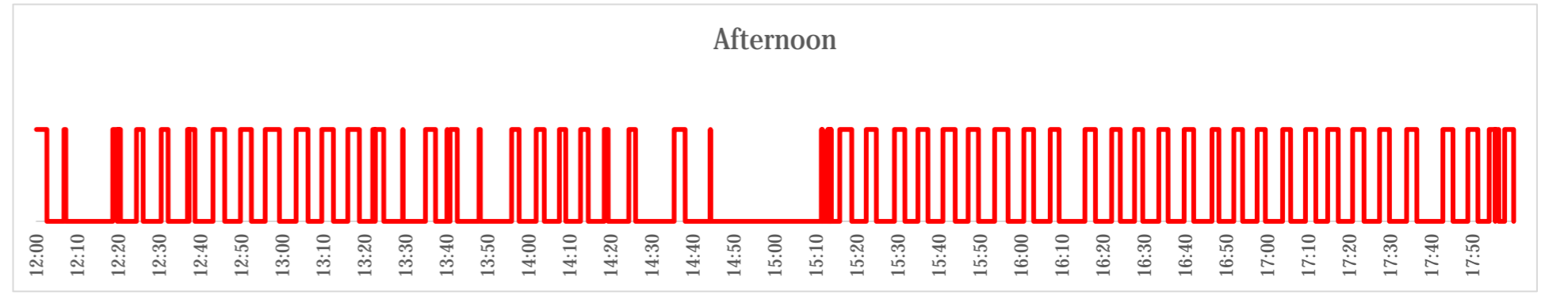
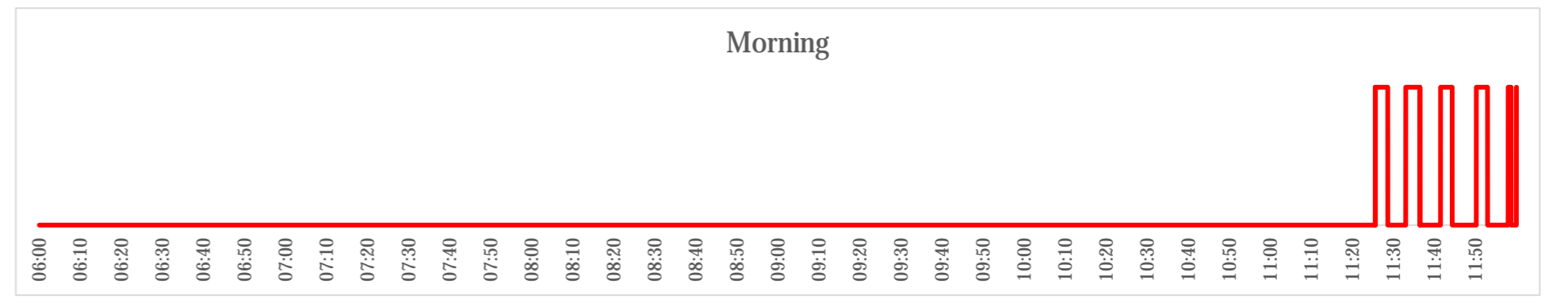
Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.



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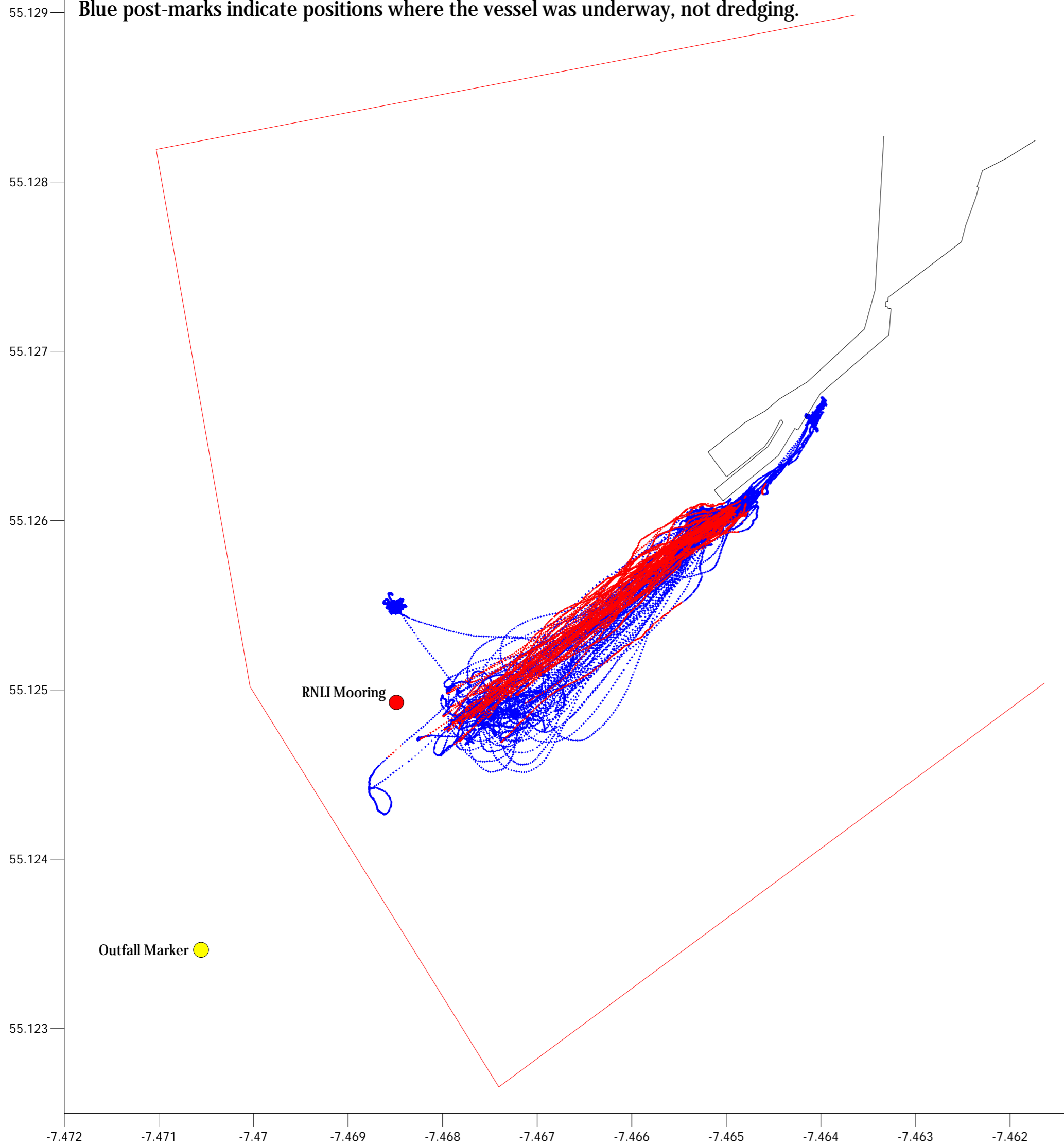


Dredging Monitor	17JUN20
Buncrana Spoil Area	Datum: WGS84

Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.

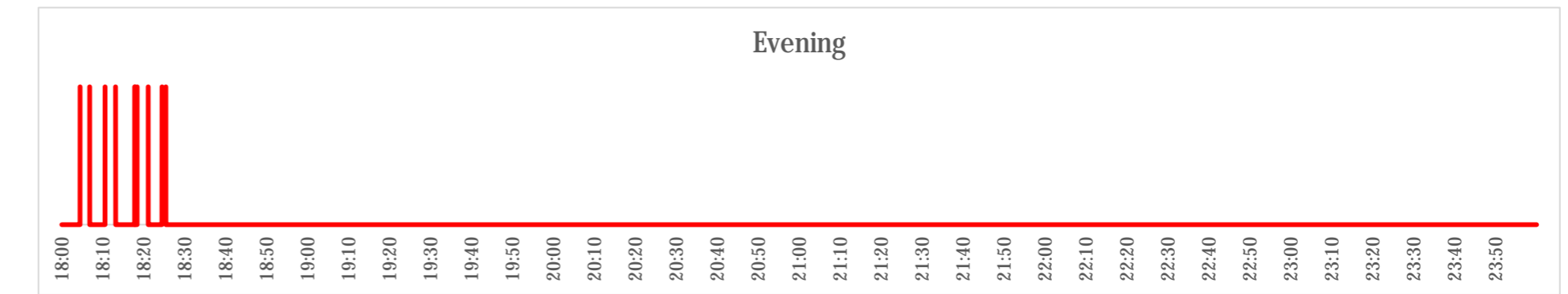
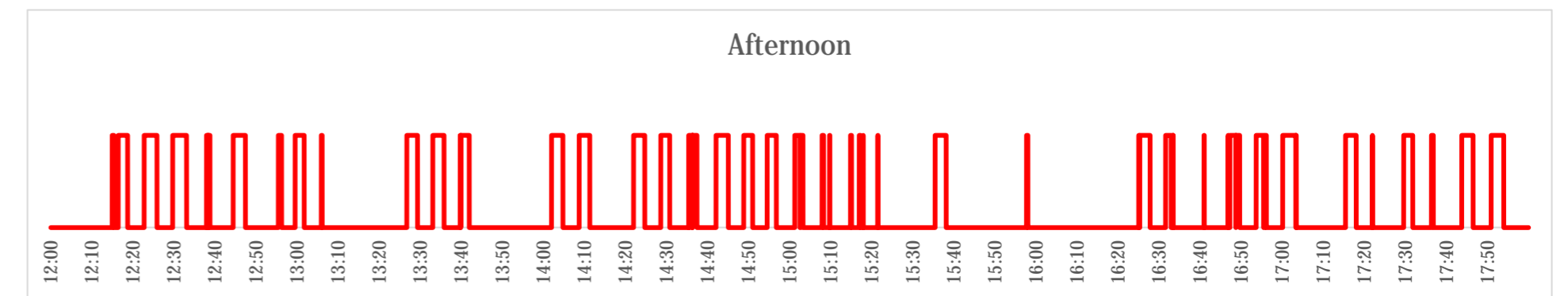
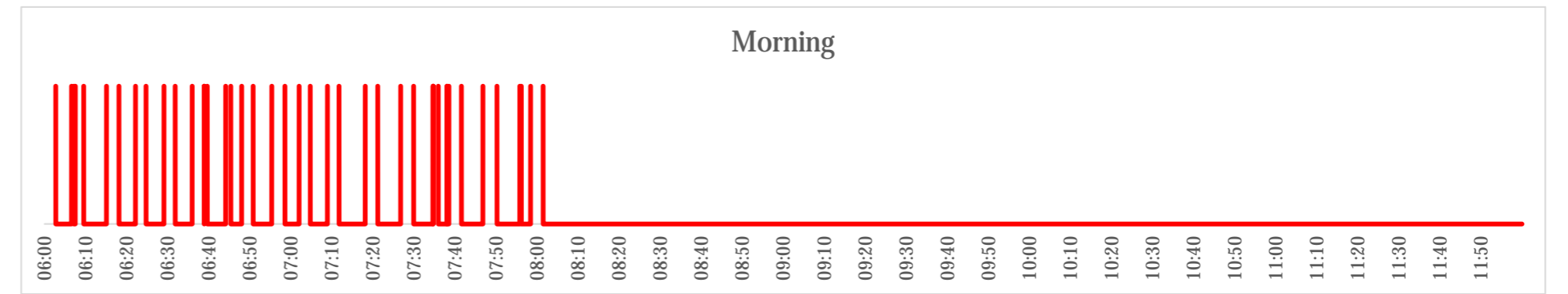
Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.

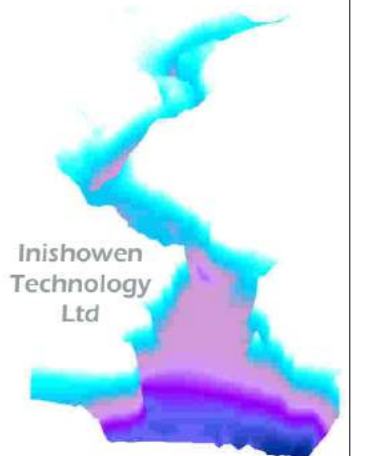
Local time was UTC+1.



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Dredging Monitor

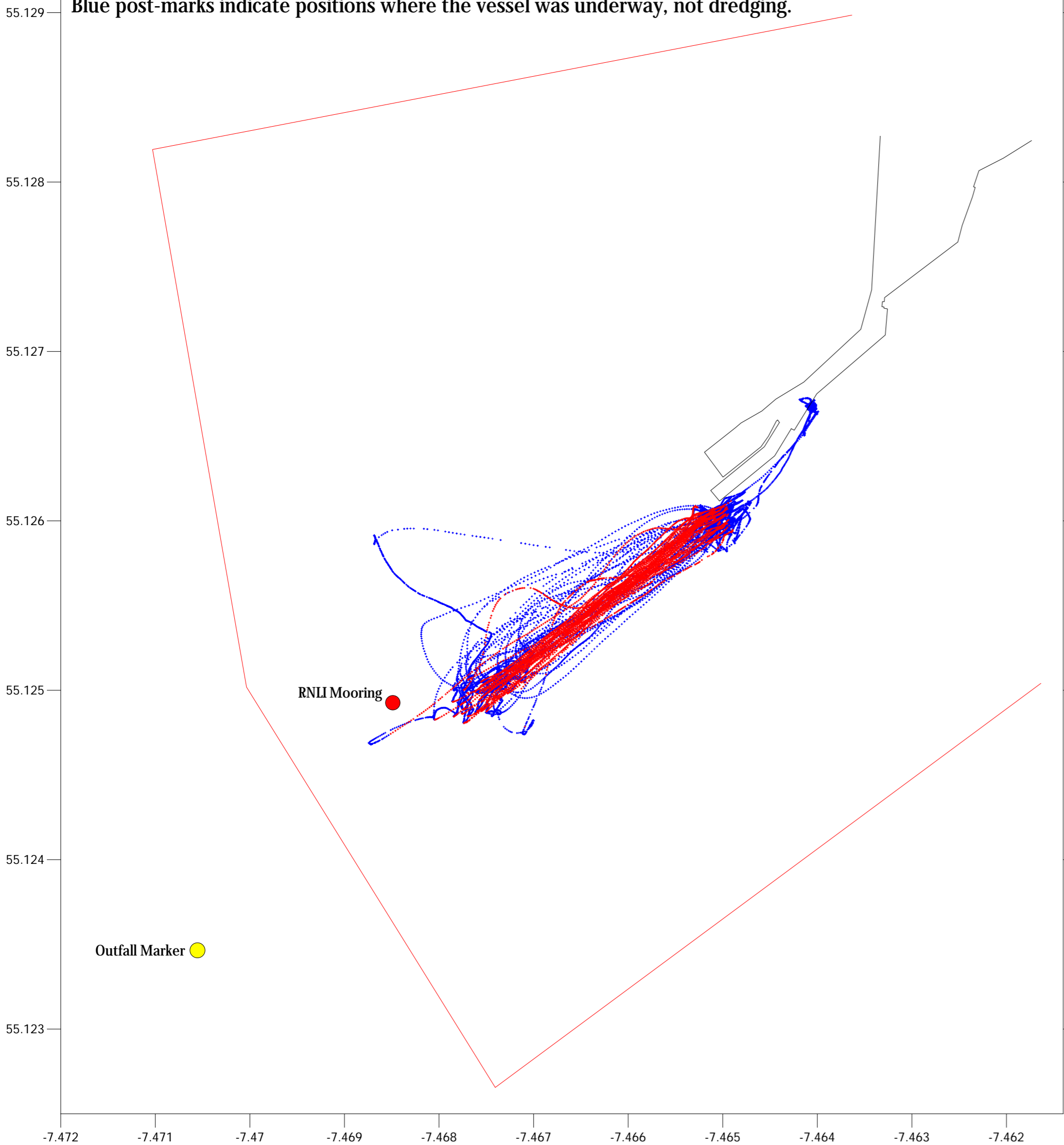
18JUN20

Buncrana Spoil Area

Datum: WGS84

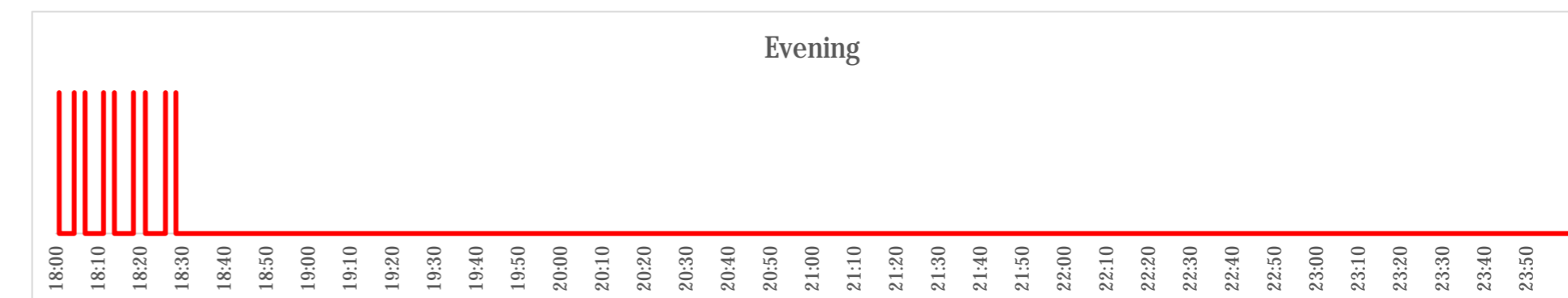
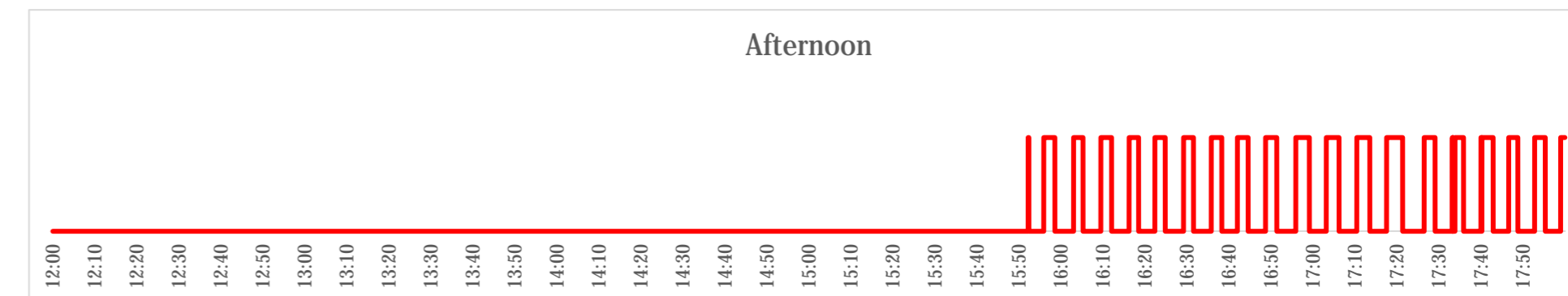
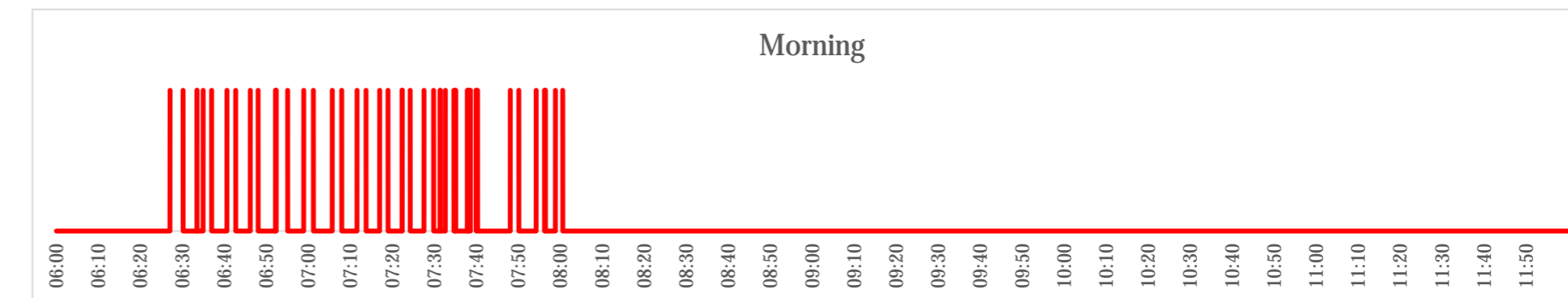
Geodetic Summary


Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.

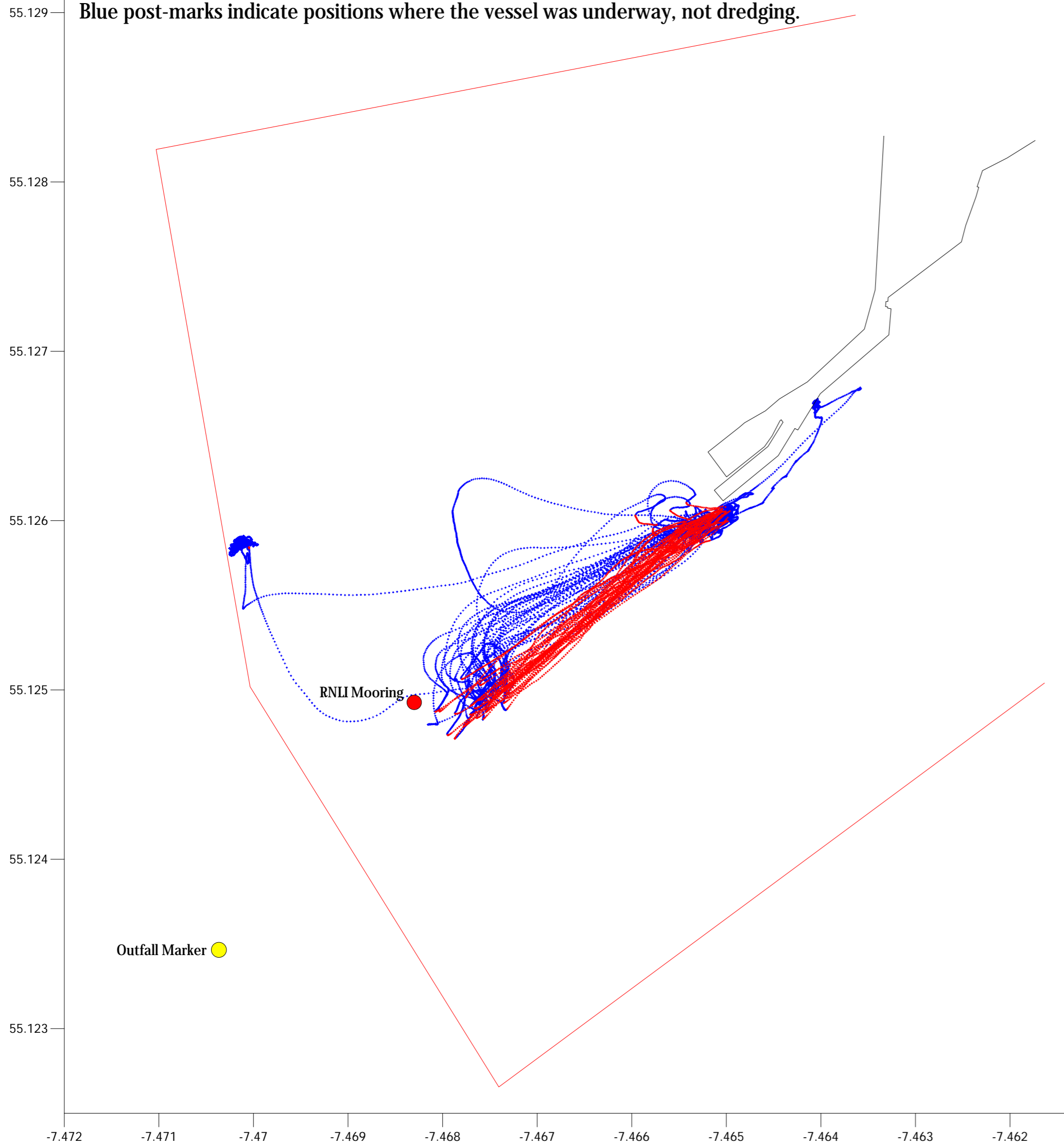


Inishowen Technology Ltd. Umricam, Buncrana, County Donegal, Republic of Ireland. T: +353 74 9363104 F: +353 76-6020725 E: survey@iotech.ie www.iotech.ie		
Dredging Monitor	19JUN20	
Buncrana Spoil Area	Datum: WGS84	

Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.

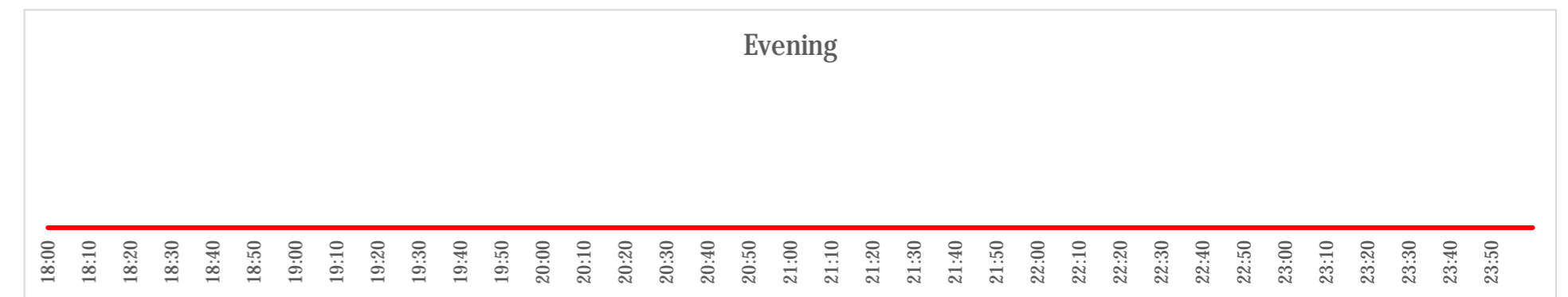
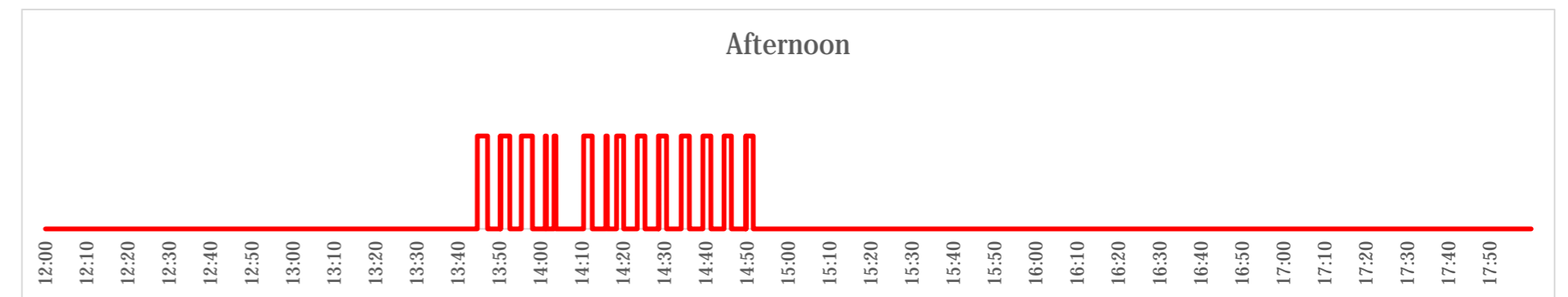
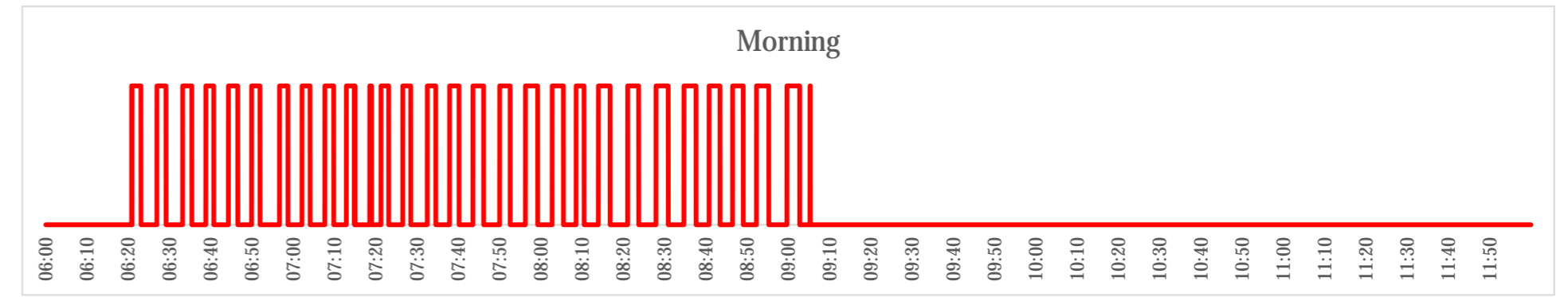
Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.

Local time was UTC+1.



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Dredging Monitor

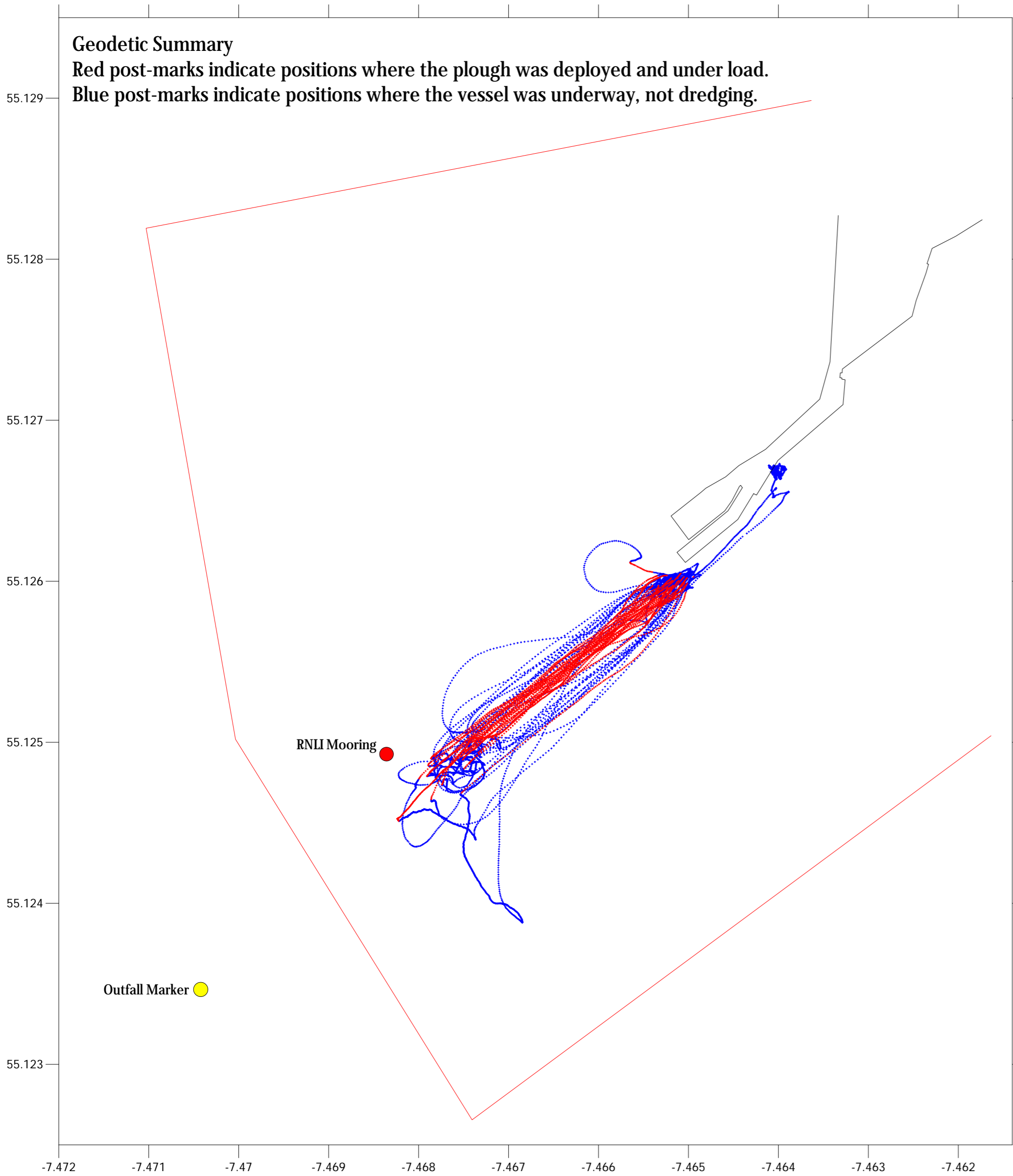
20JUN20

Buncrana Spoil Area

Datum: WGS84

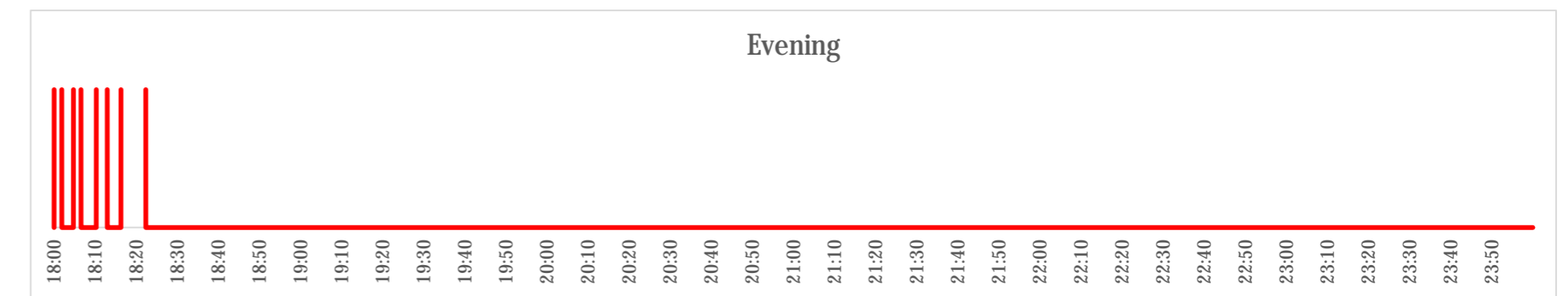
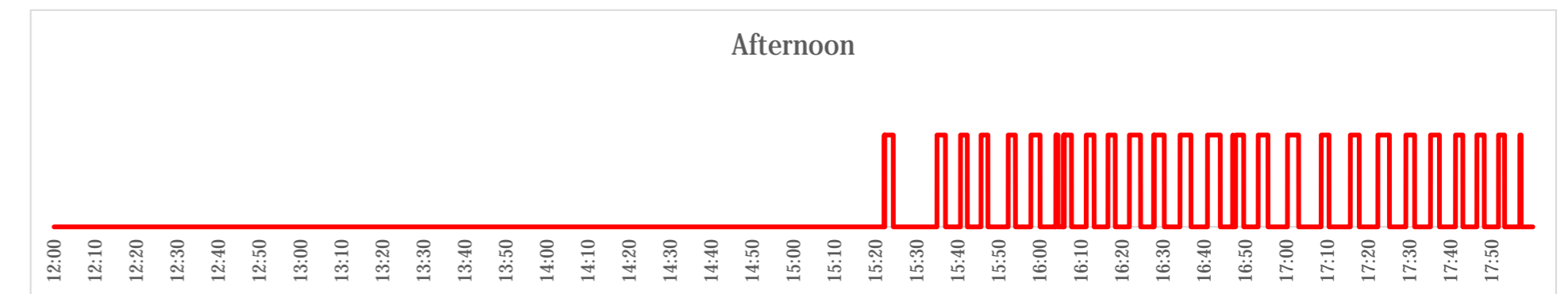
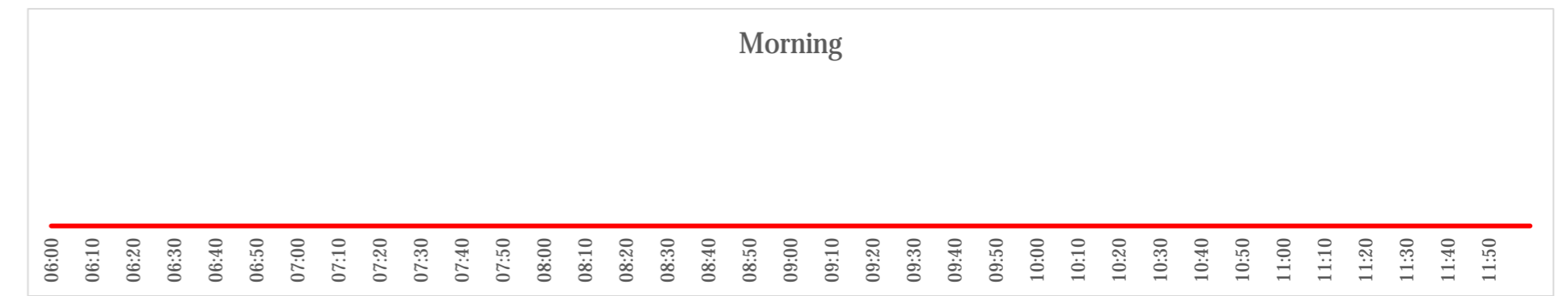
Geodetic Summary


Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

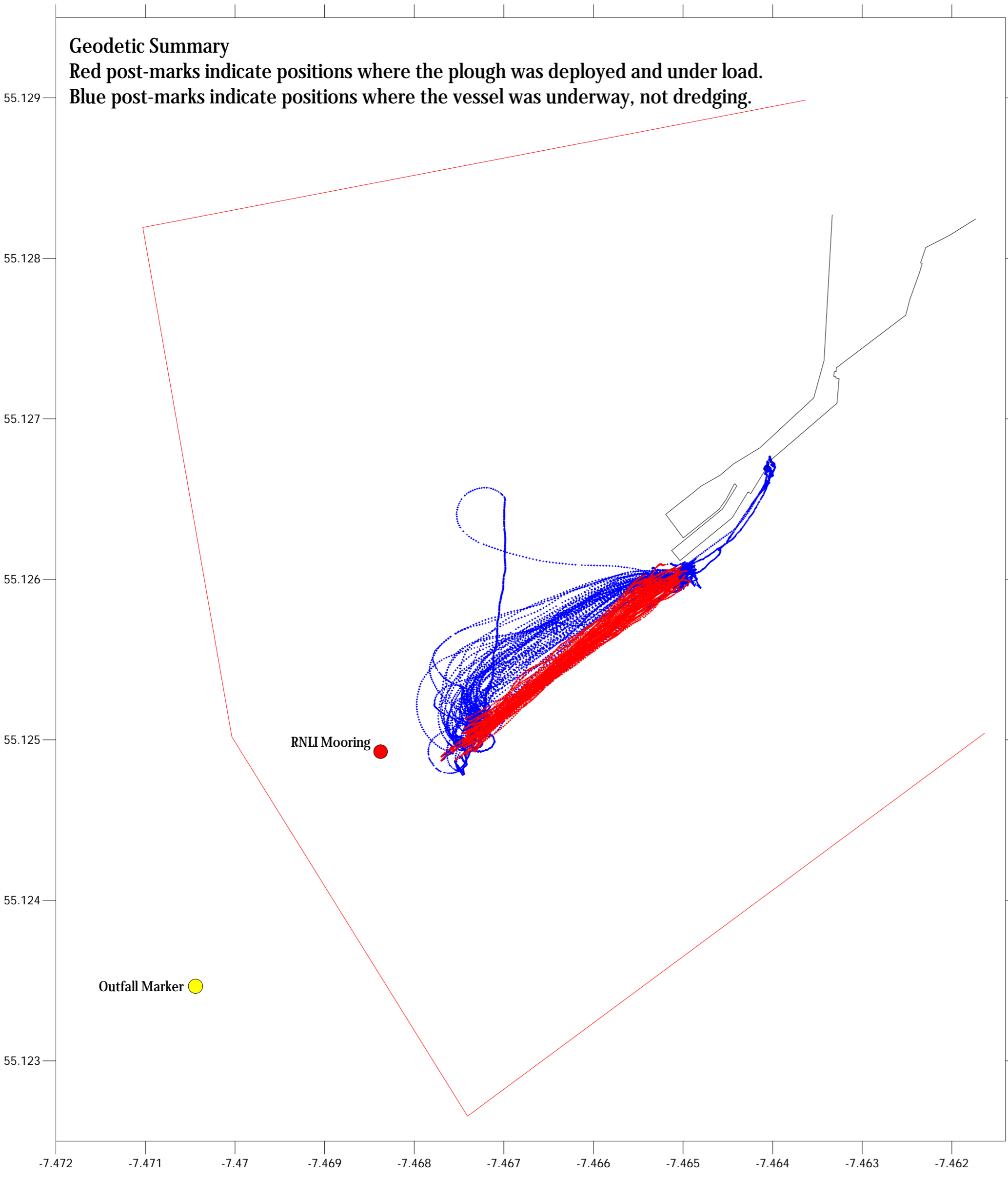
Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.



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Dredging Monitor	22JUN20	
Buncrana Spoil Area	Datum: WGS84	

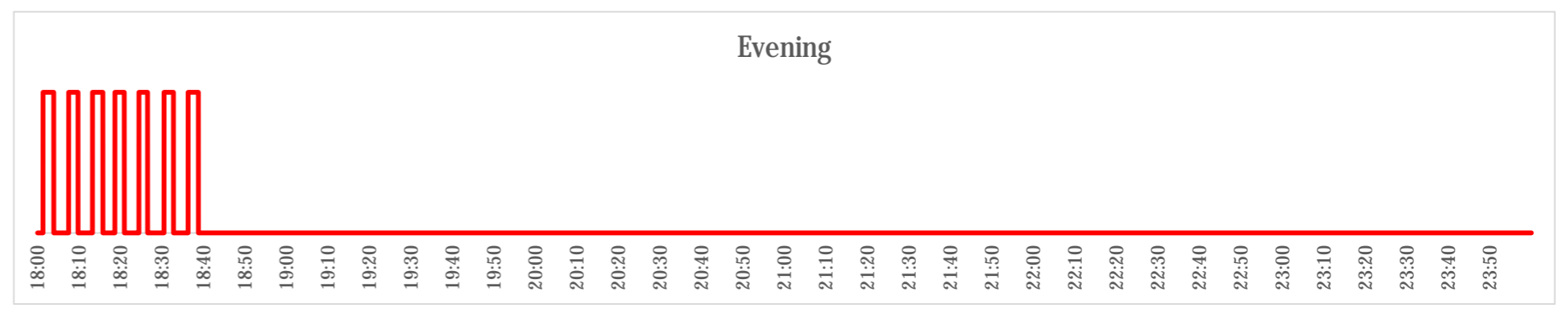
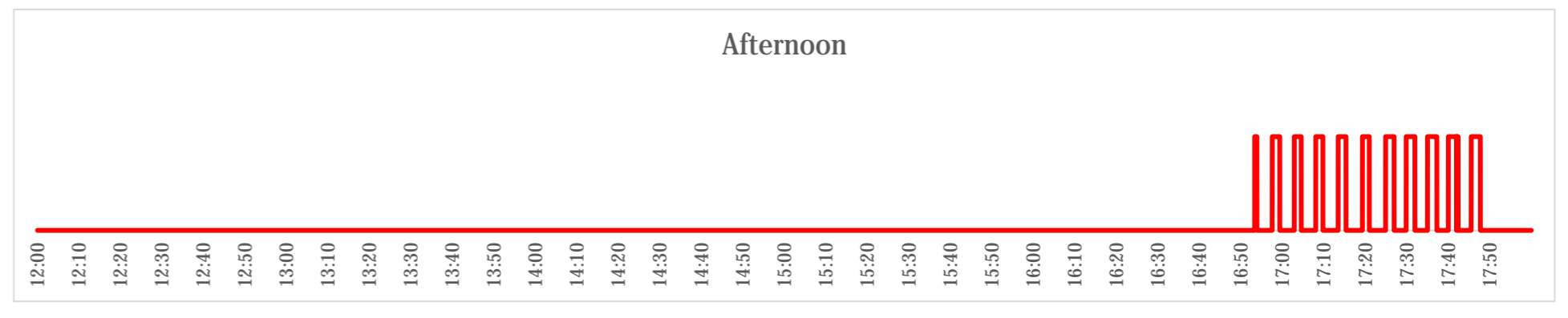
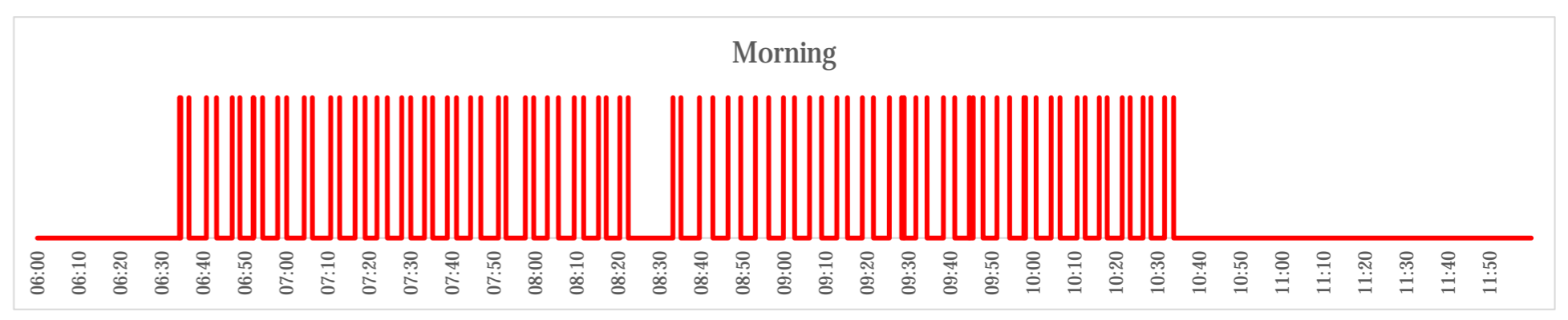
Geodetic Summary


Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

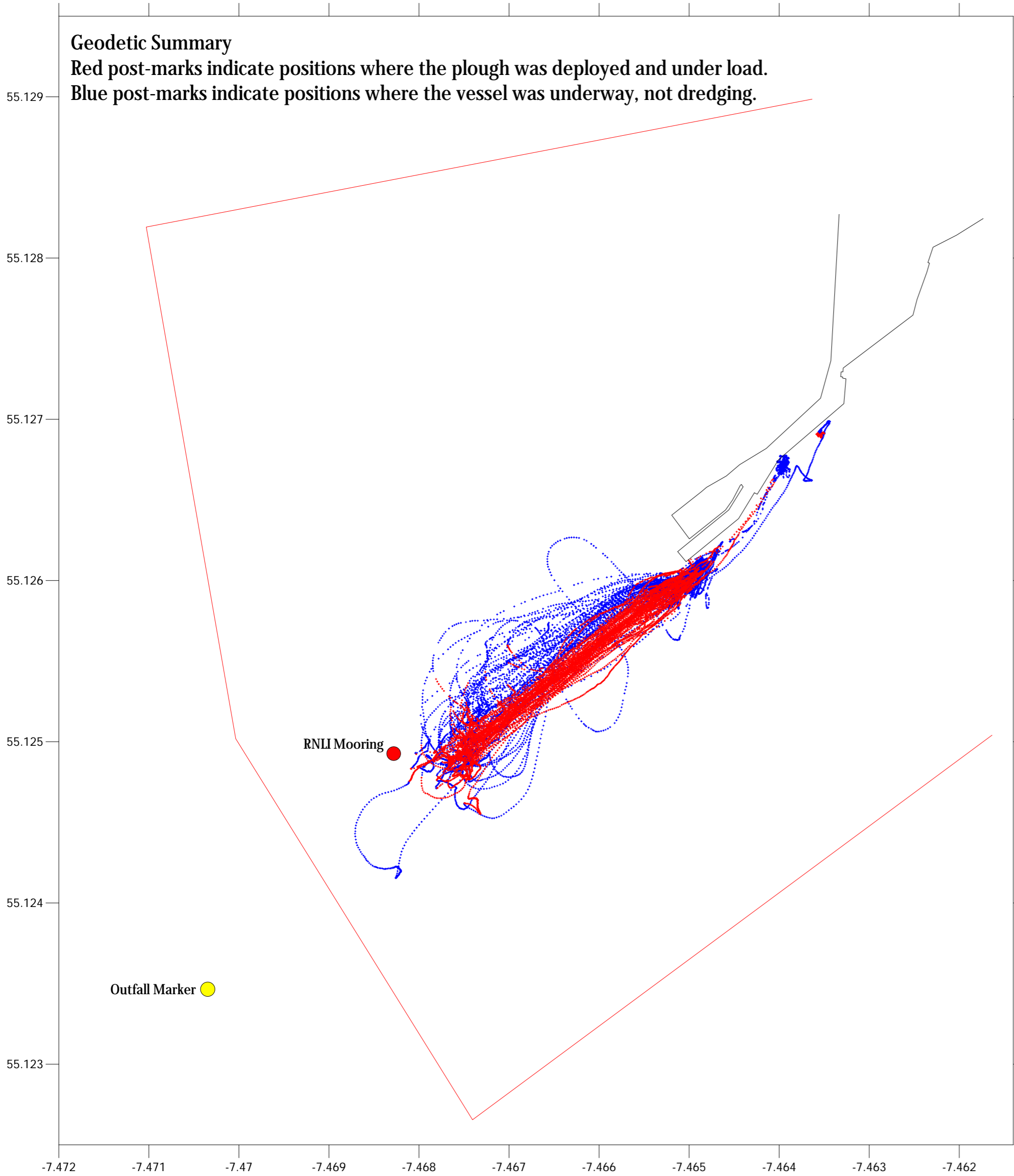
Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.



Inishowen Technology Ltd. Umicam, Buncrana, County Donegal, Republic of Ireland. T: +353 74 9363104 F: +353 76-6020725 E: survey@iotech.ie www.iotech.ie		
Dredging Monitor	23JUN20	
Buncrana Spoil Area	Datum: WGS84	

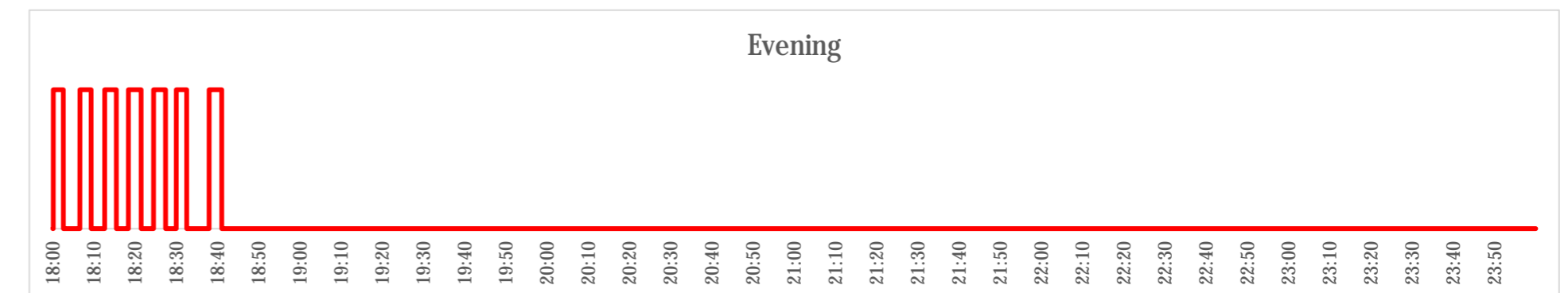
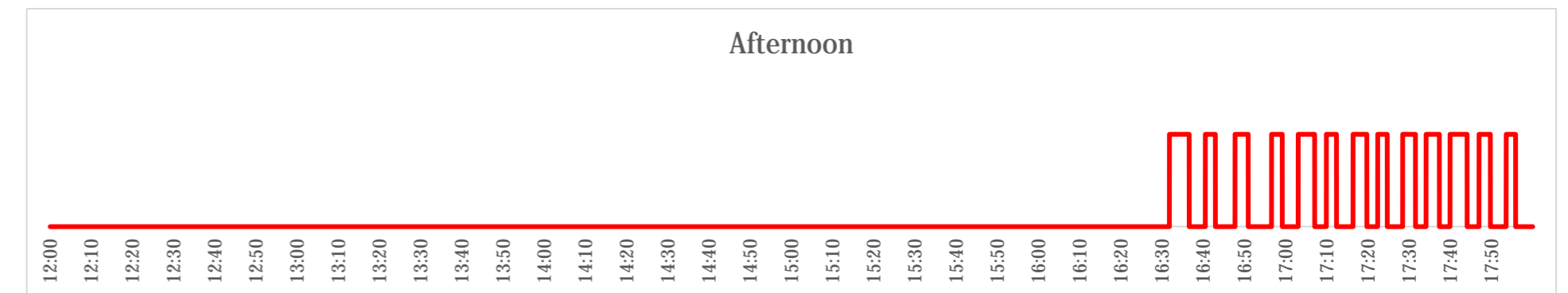
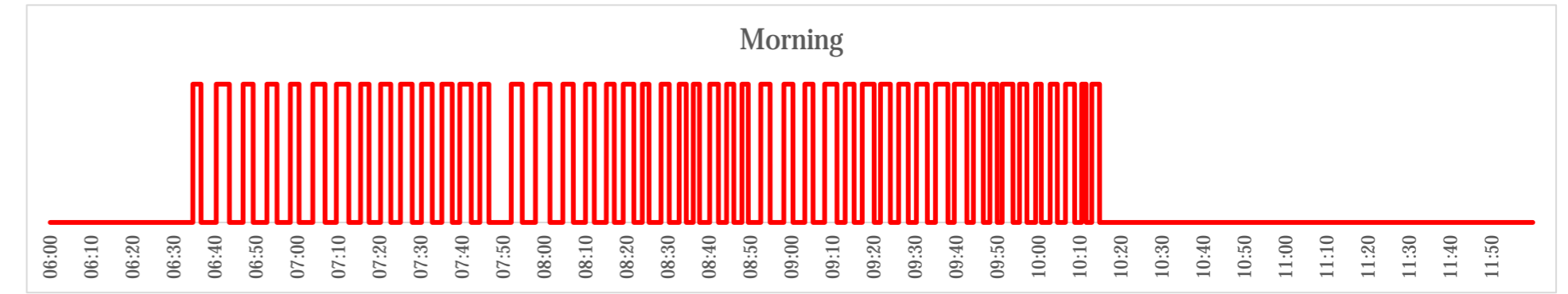
Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.

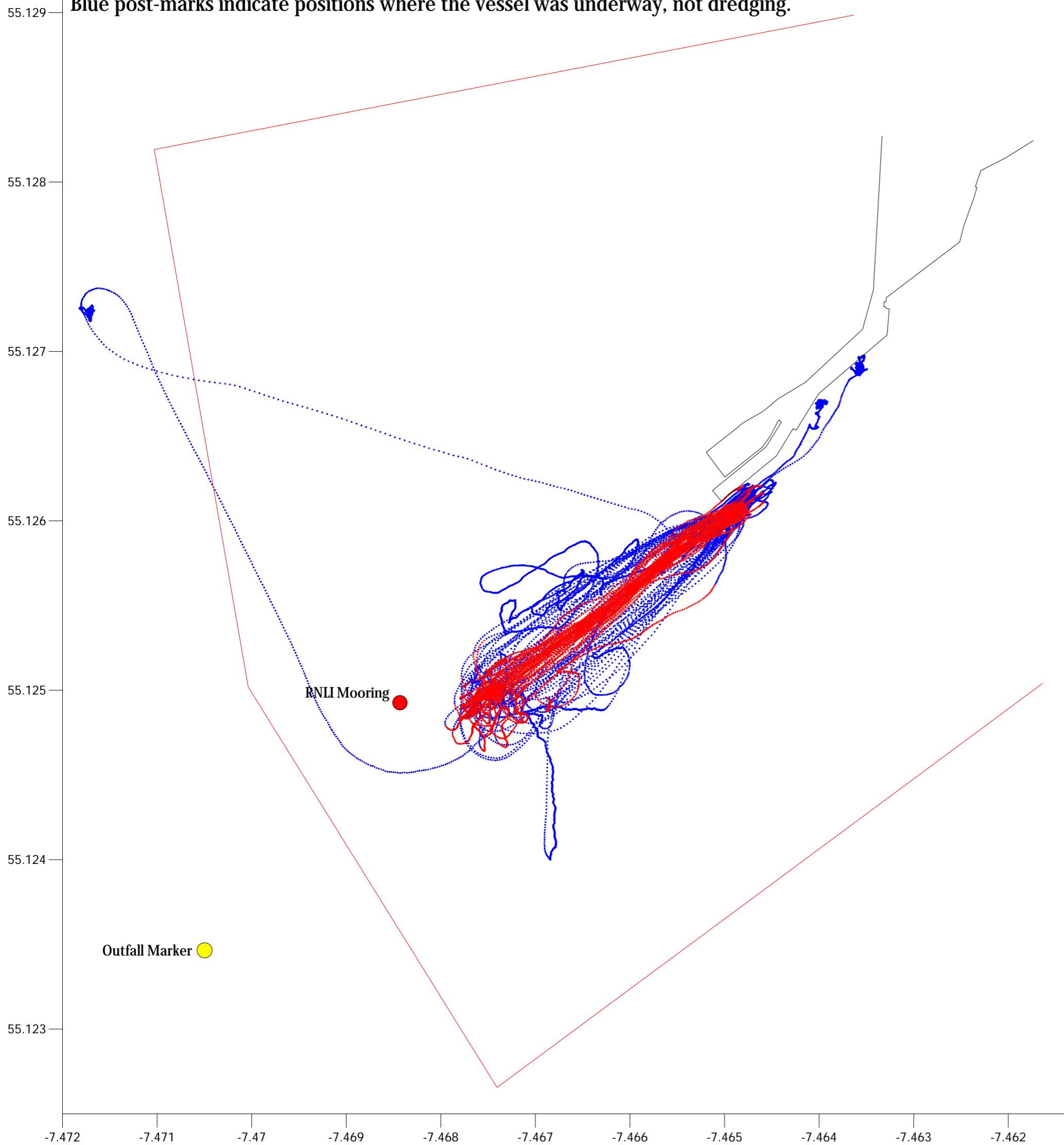


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Dredging Monitor	24JUN20	
Buncrana Spoil Area	Datum: WGS84	

Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.

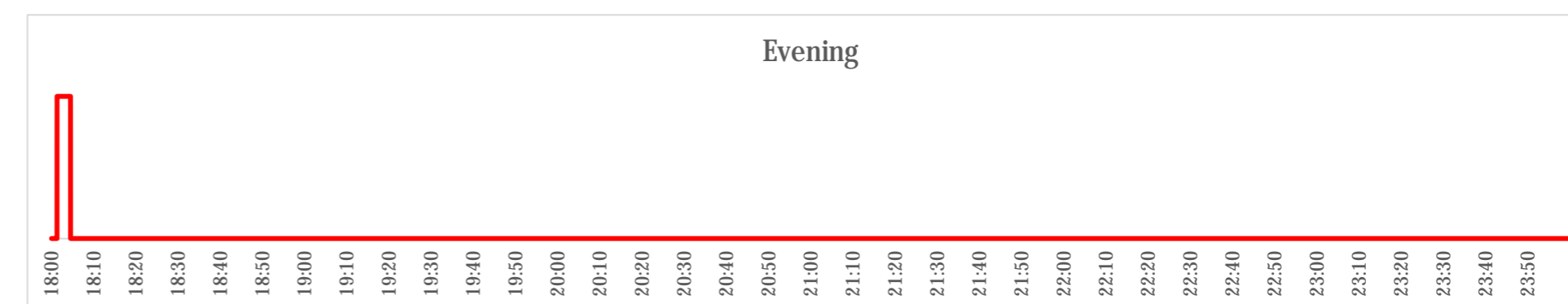
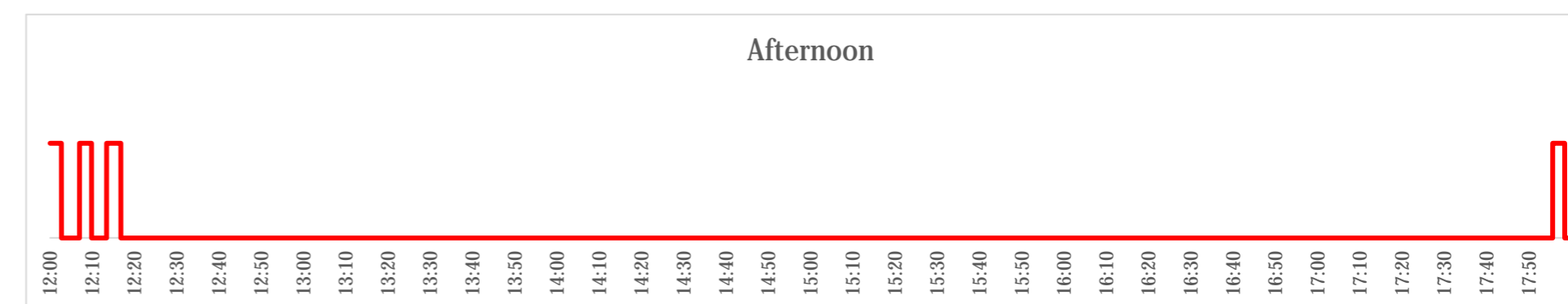
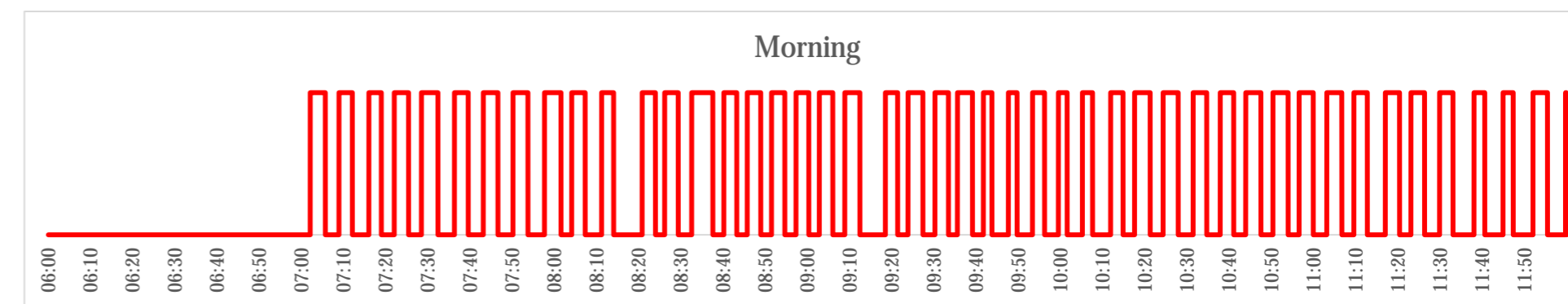
Blue post-marks indicate positions where the vessel was underway, not dredging.




Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.

Local time was UTC+1.

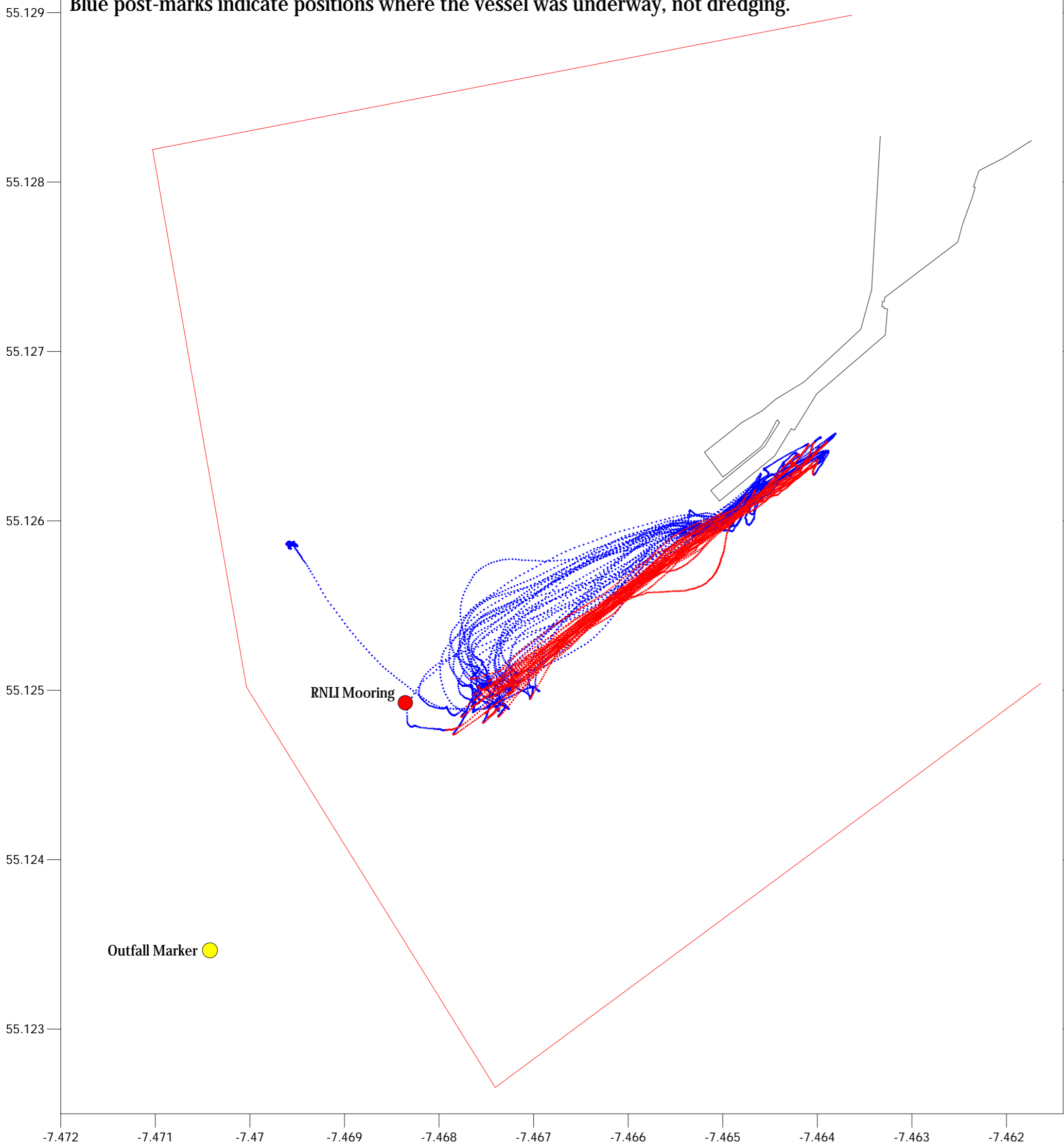


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Dredging Monitor		
Buncrana Spoil Area		25JUN20 Datum: WGS84

Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.

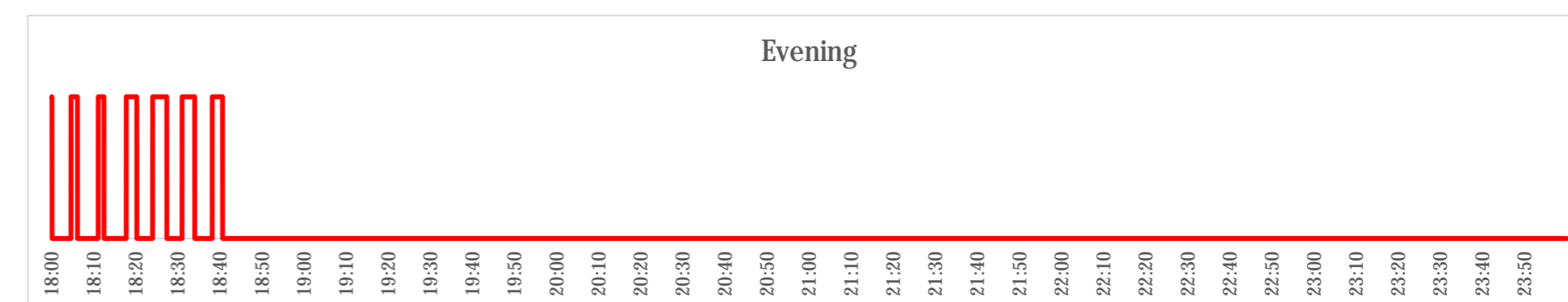
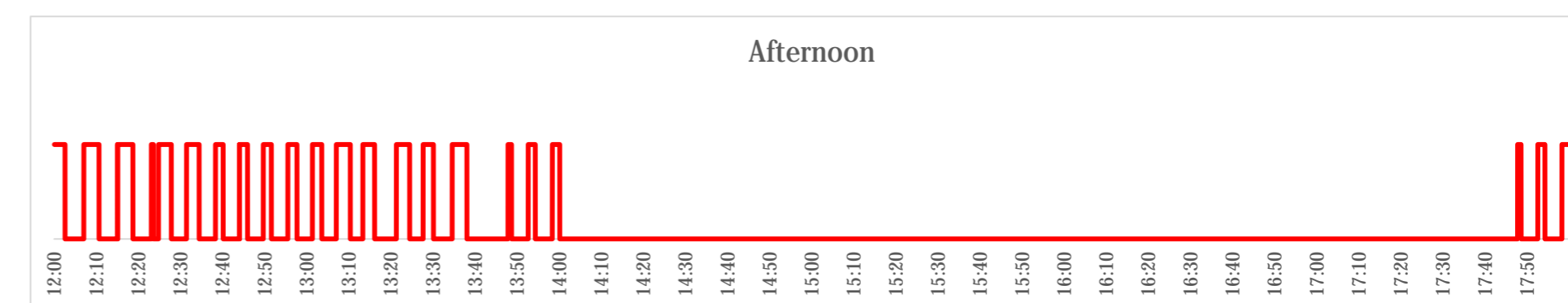
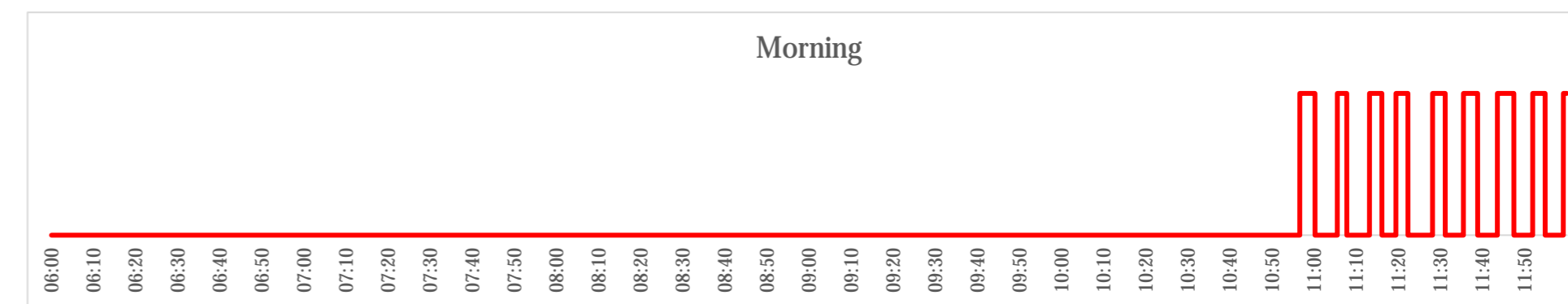
Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.

Local time was UTC+1.

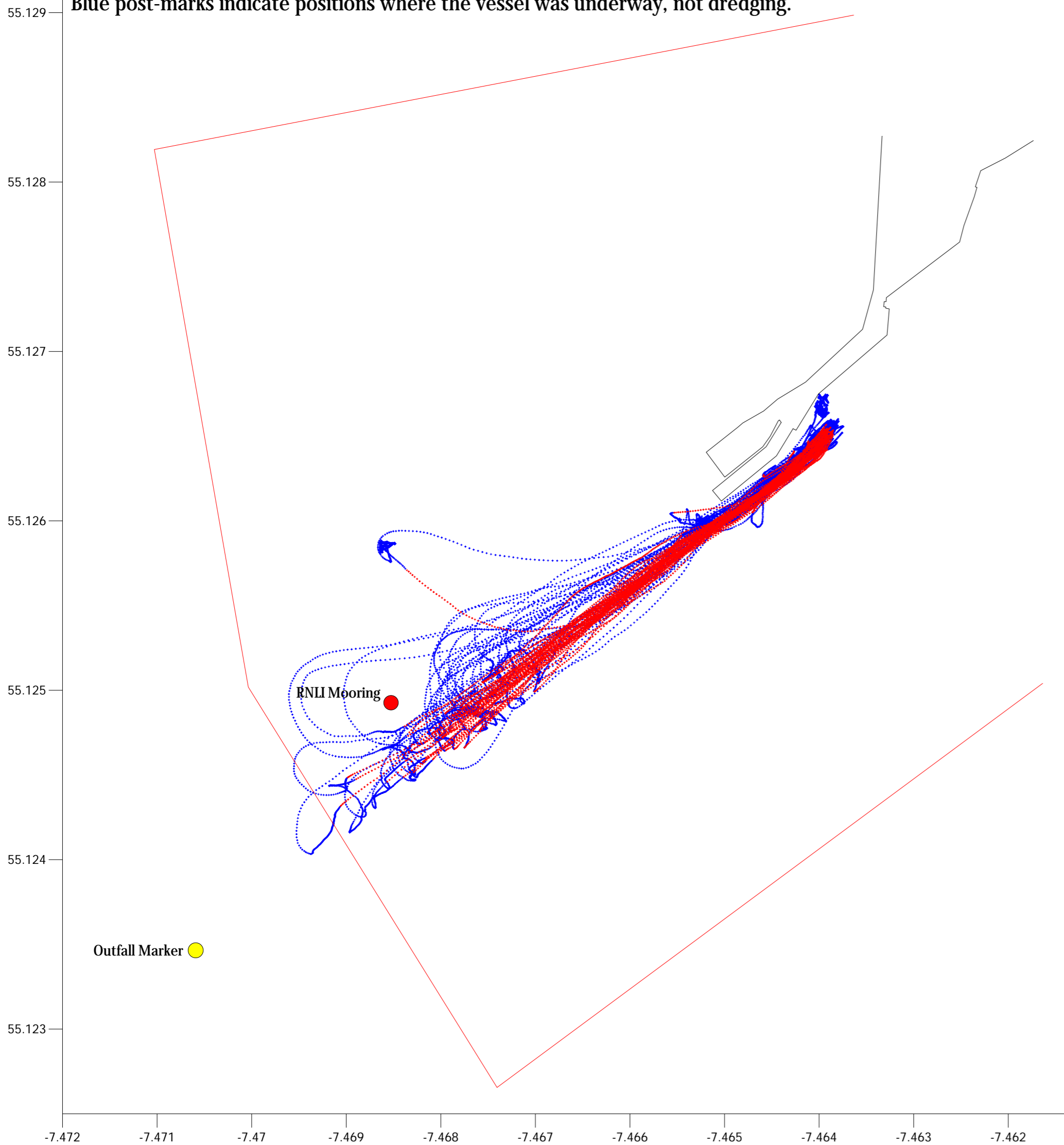


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<p>Dredging Monitor</p>		
<p>Buncrana Spoil Area</p>		<p>26JUN20</p> <p>Datum: WGS84</p>

Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.

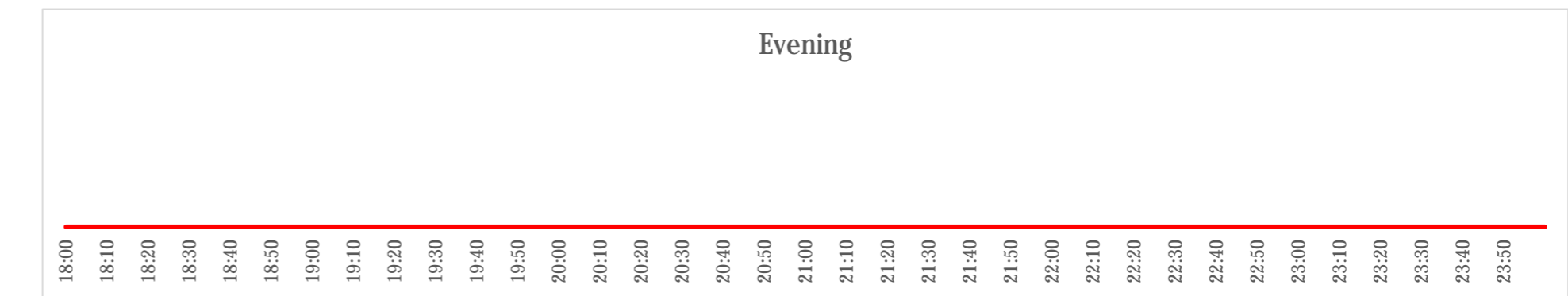
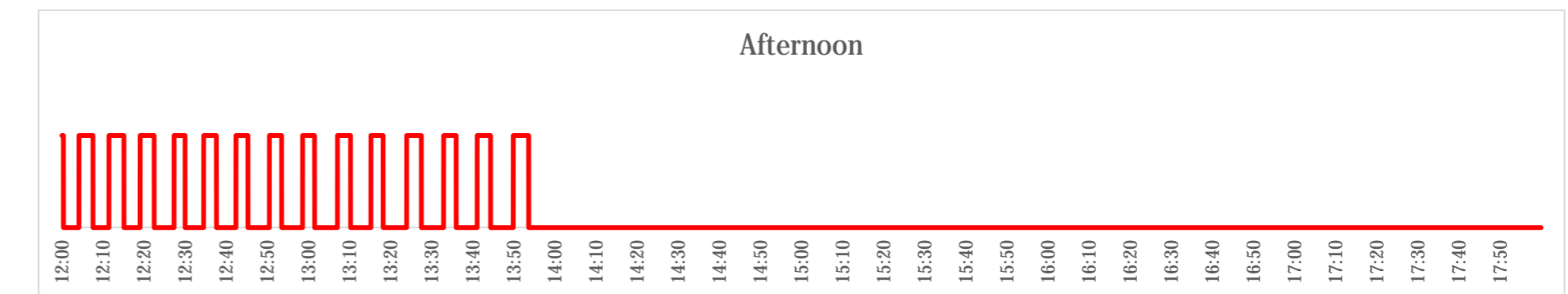
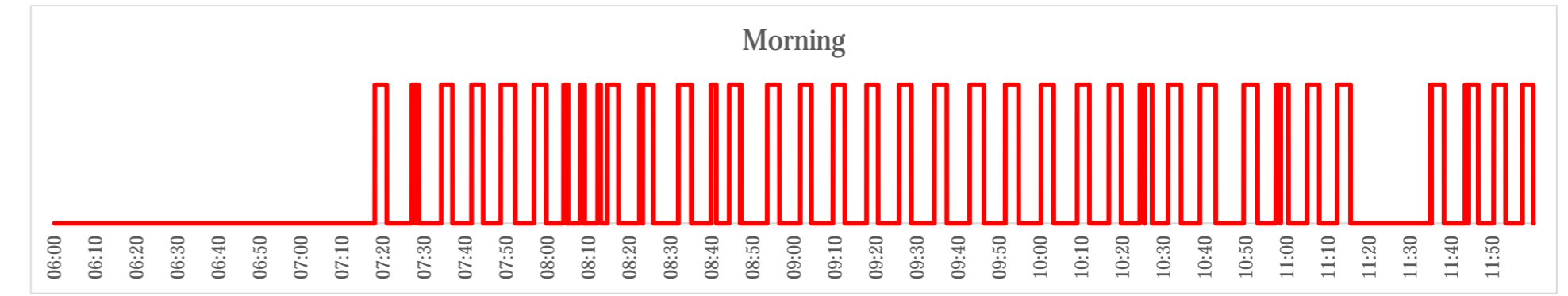
Blue post-marks indicate positions where the vessel was underway, not dredging.




Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.

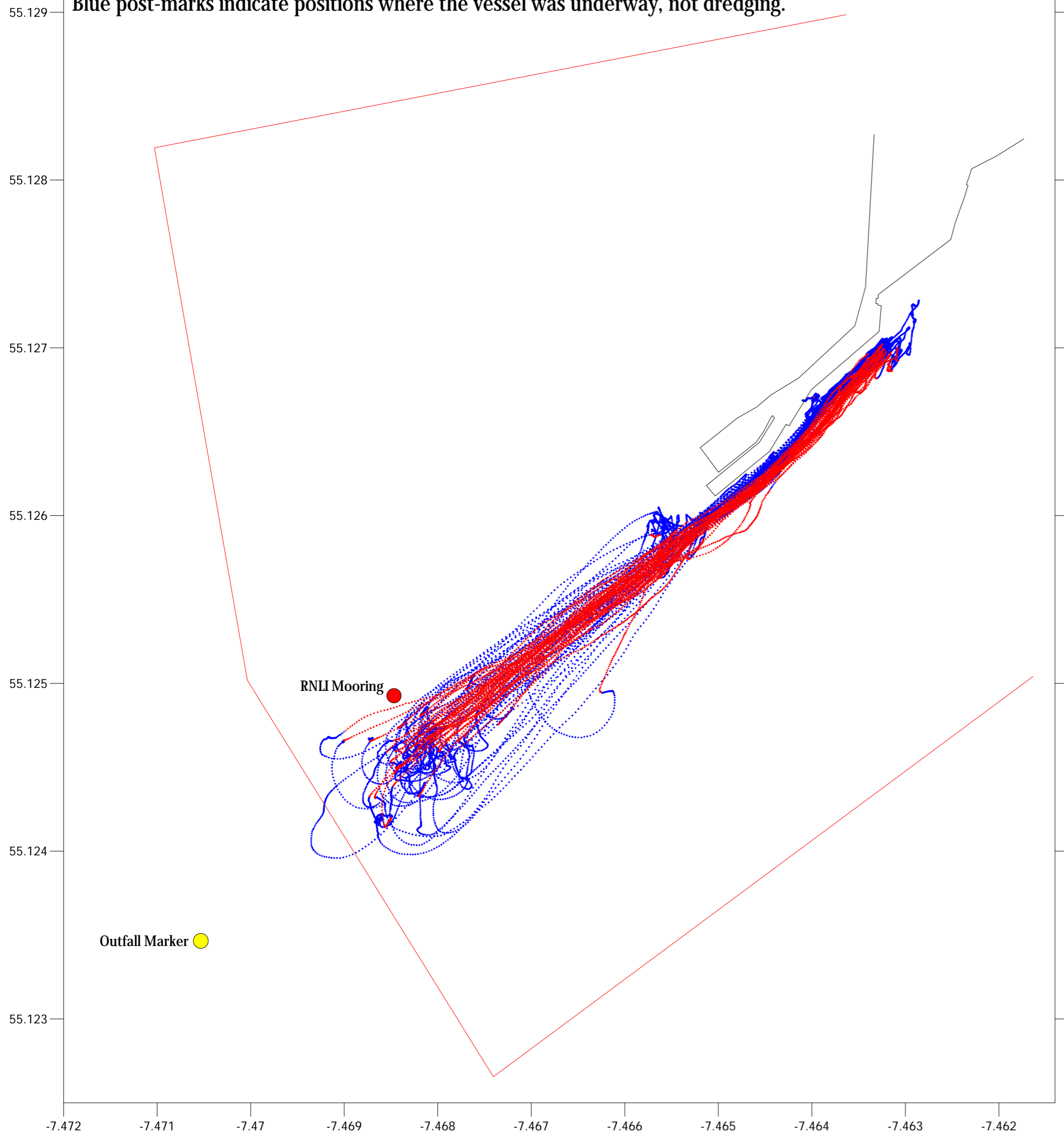
Local time was UTC+1.



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Dredging Monitor	27JUN20	
Buncrana Spoil Area	Datum: WGS84	

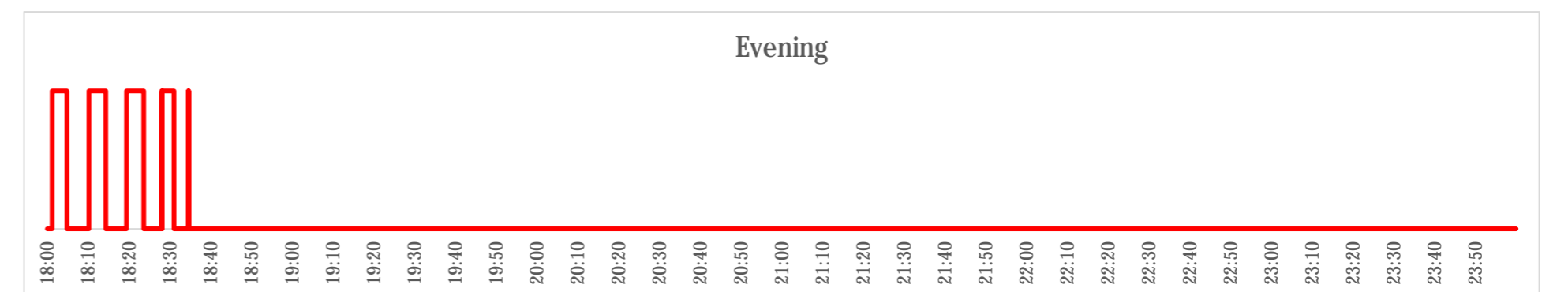
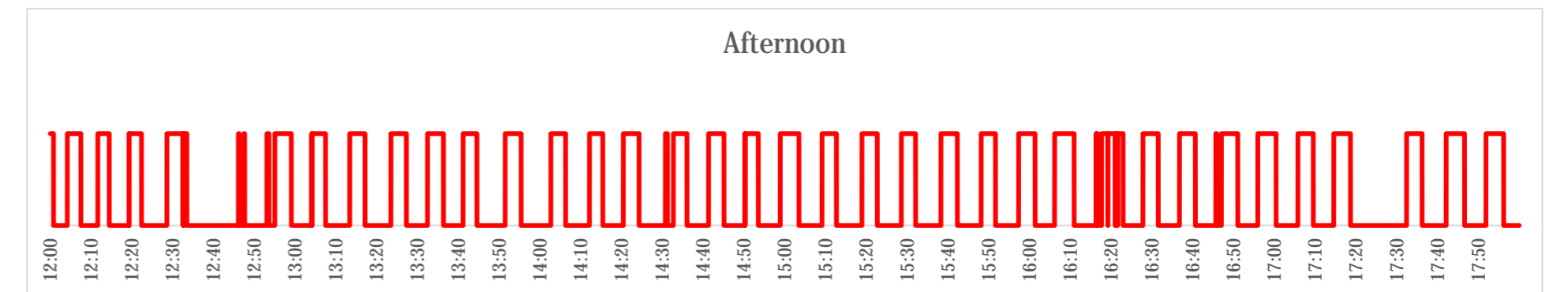
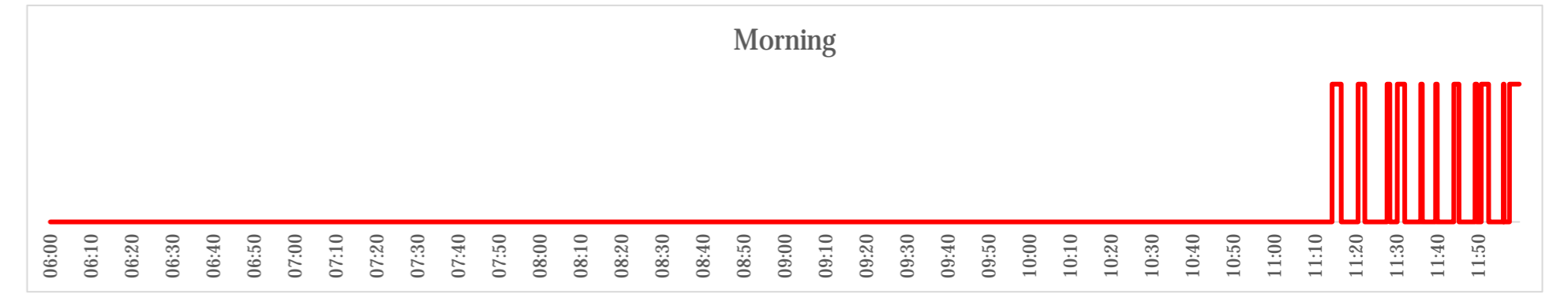
Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.

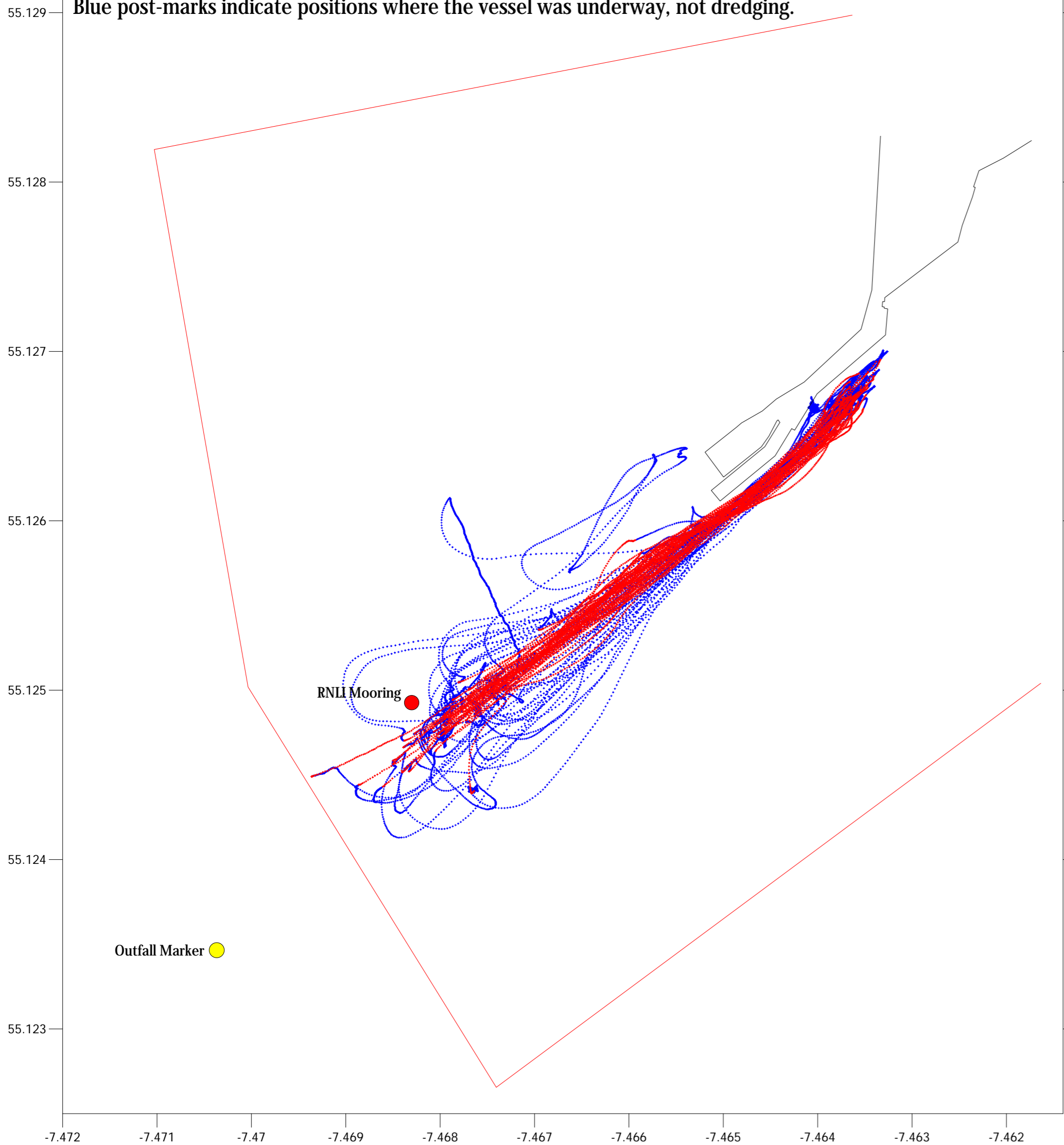


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Dredging Monitor	01JUL20	
Buncrana Spoil Area	Datum: WGS84	

Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.

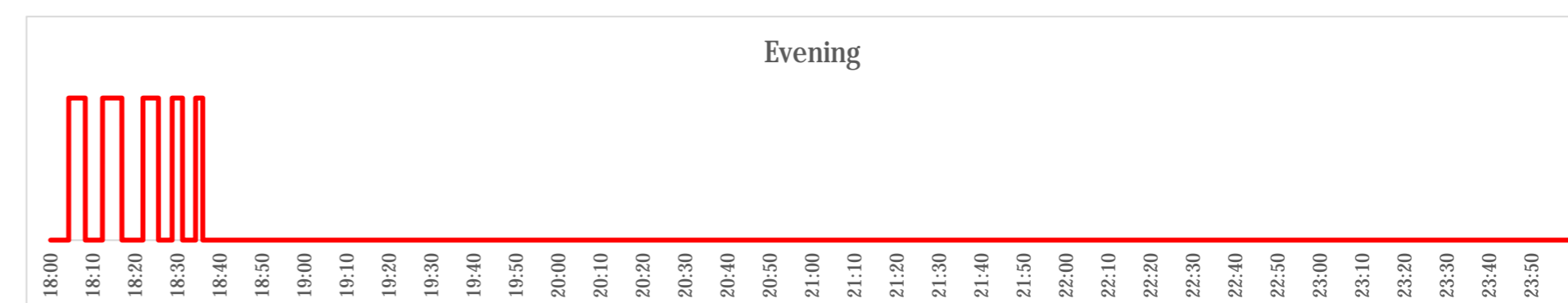
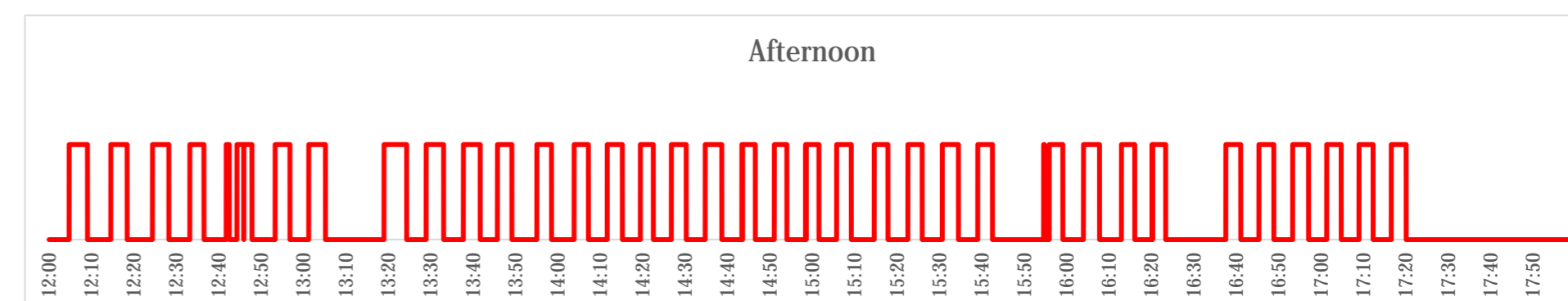
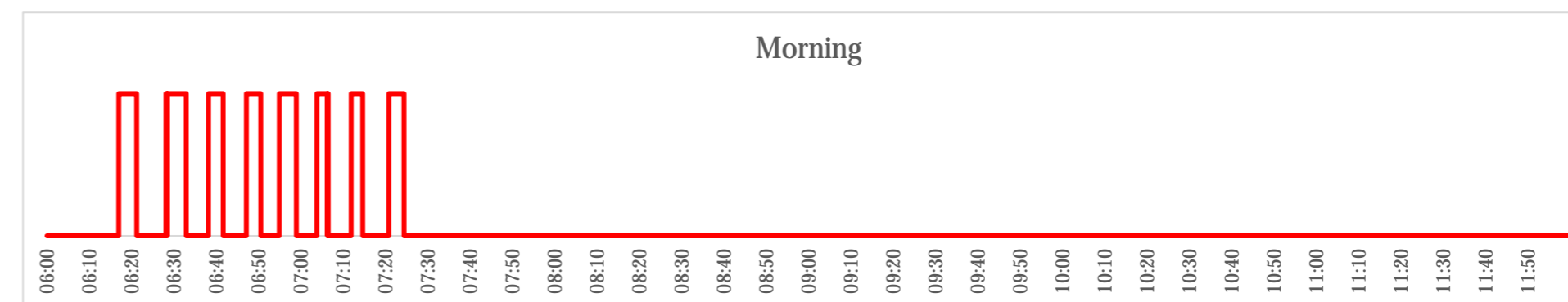
Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.

Local time was UTC+1.



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Dredging Monitor

02JUL20

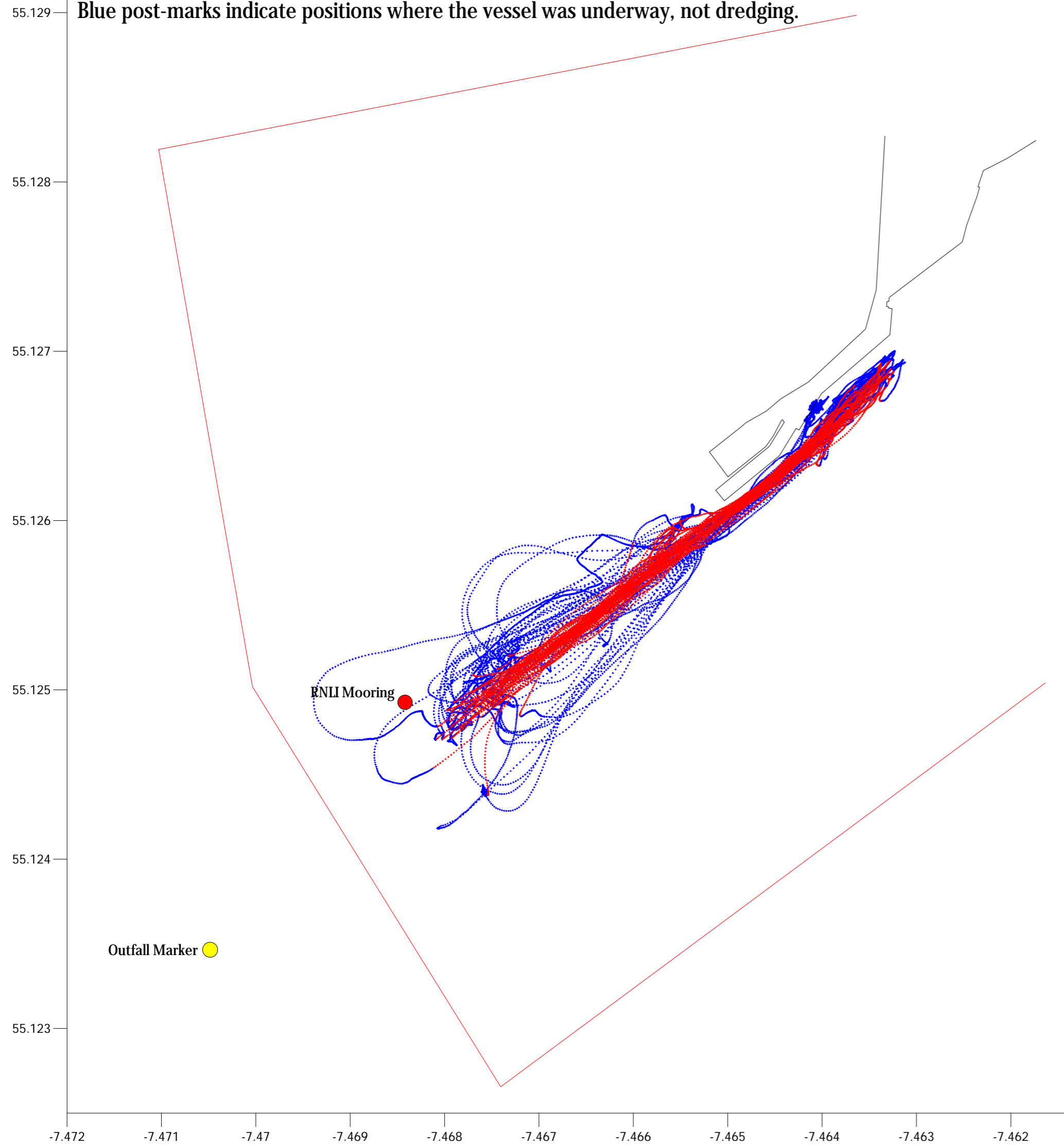
Buncrana Spoil Area

Datum: WGS84

Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.

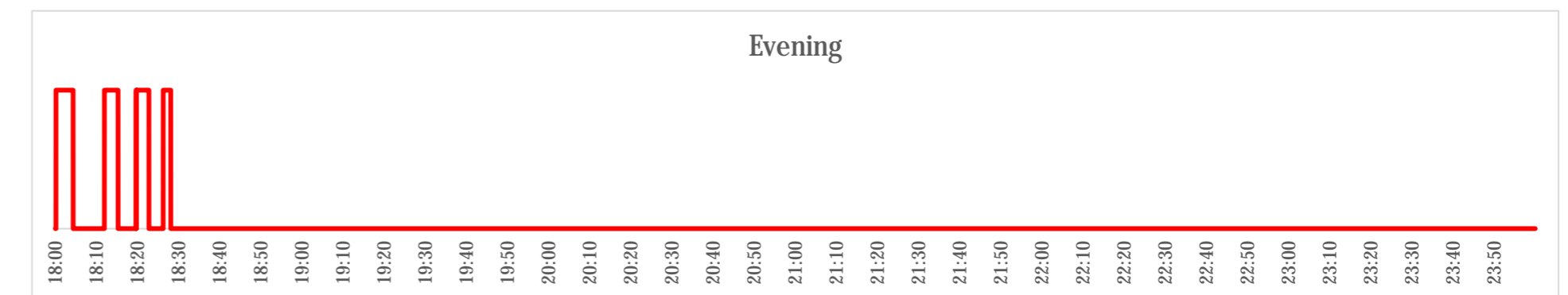
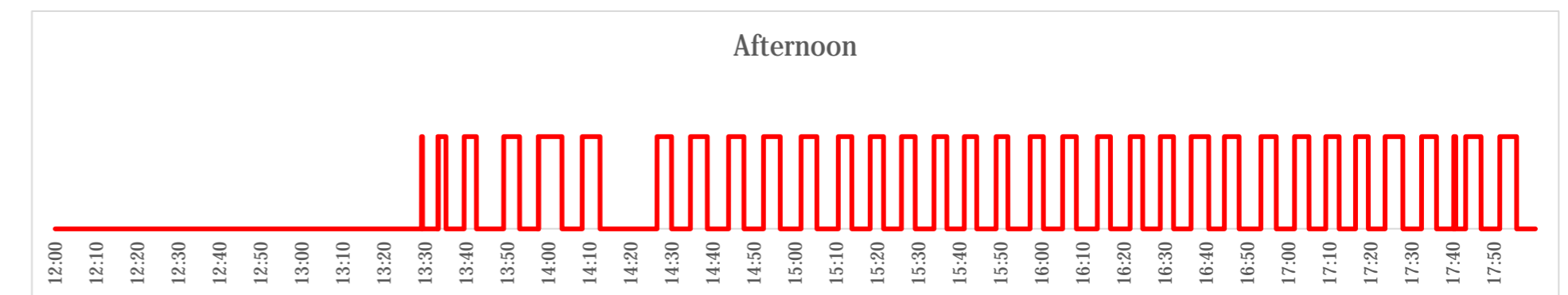
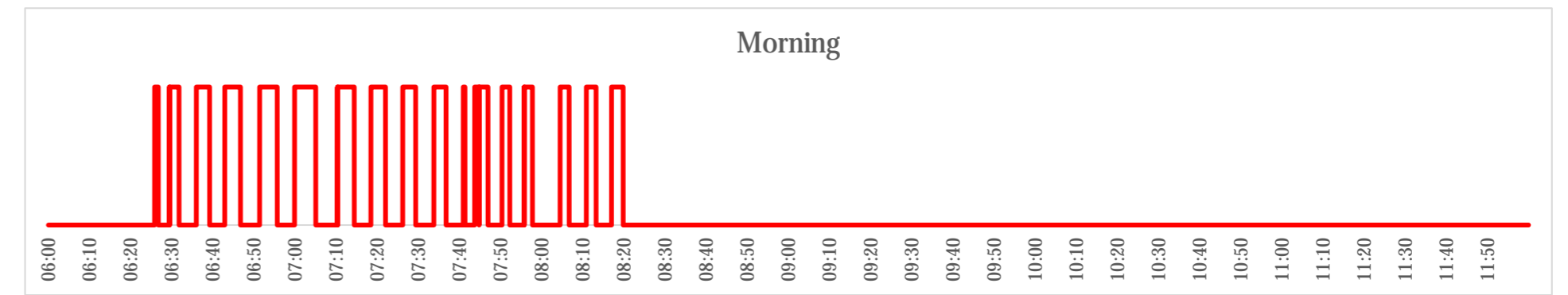
Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.

Local time was UTC+1.



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Dredging Monitor

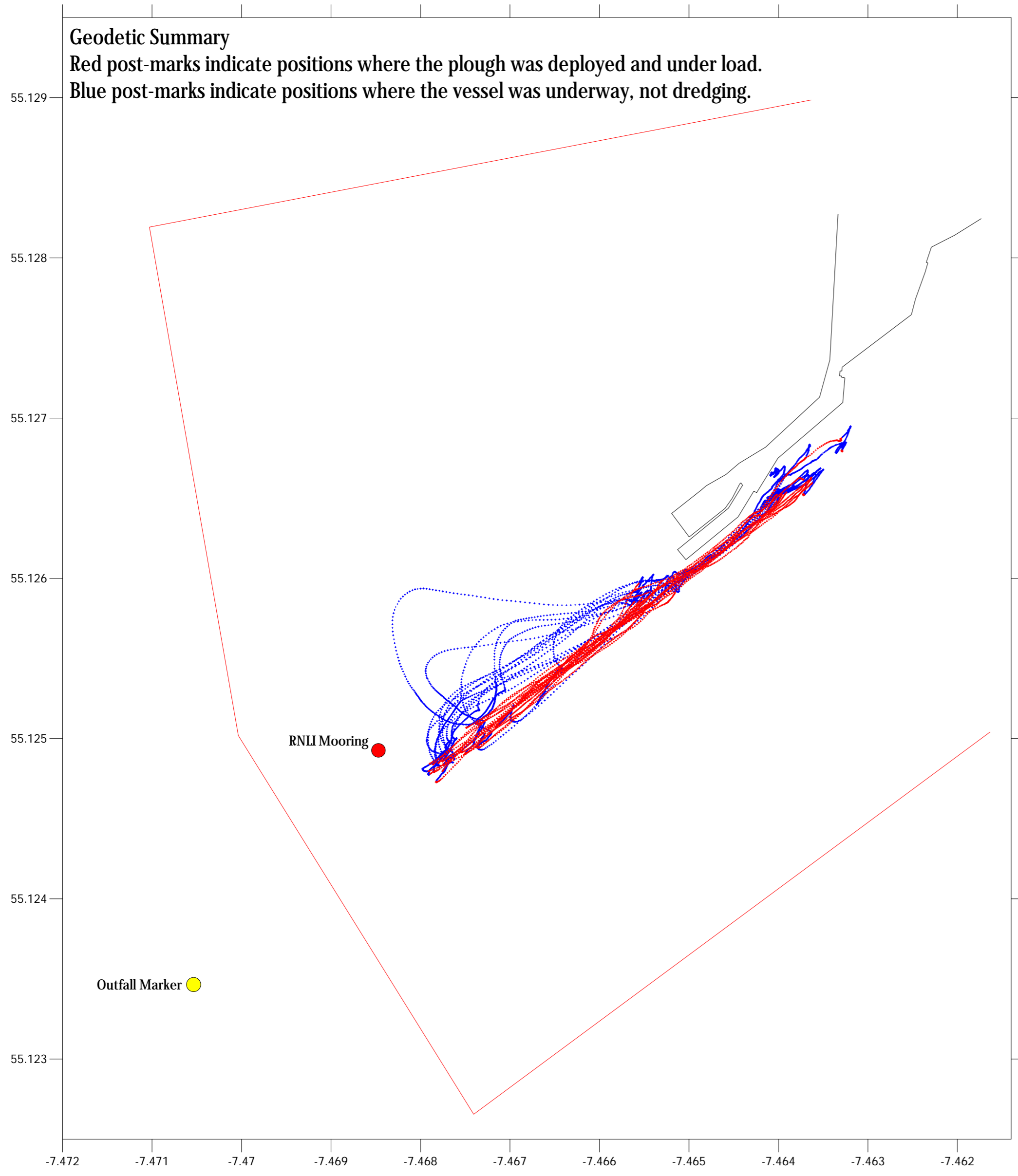
03JUL20

Buncrana Spoil Area

Datum: WGS84

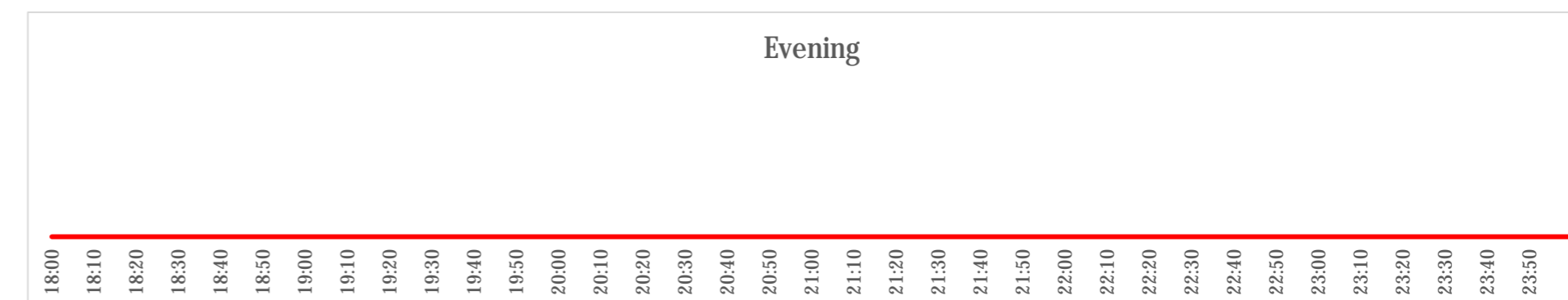
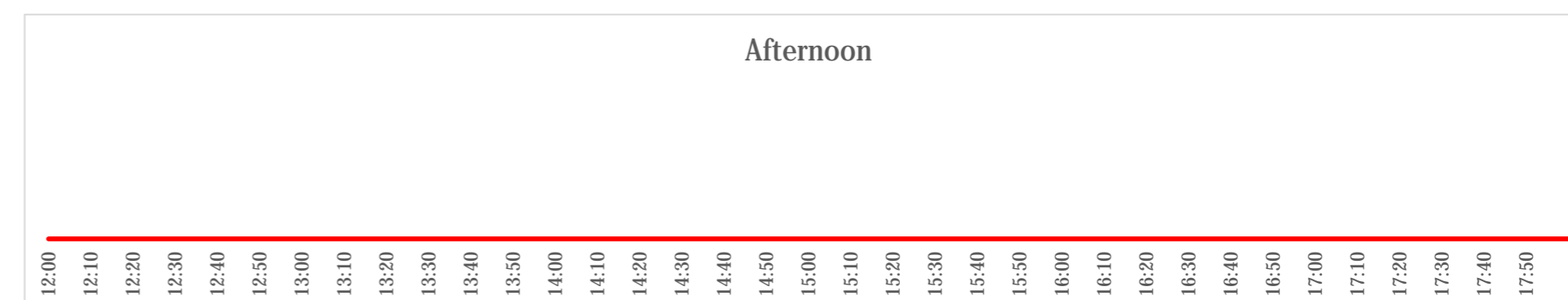
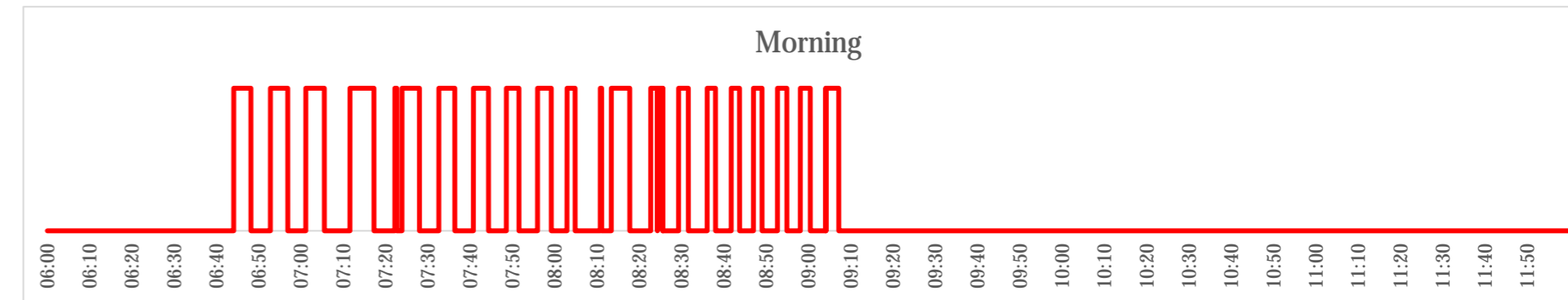
Geodetic Summary


Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.

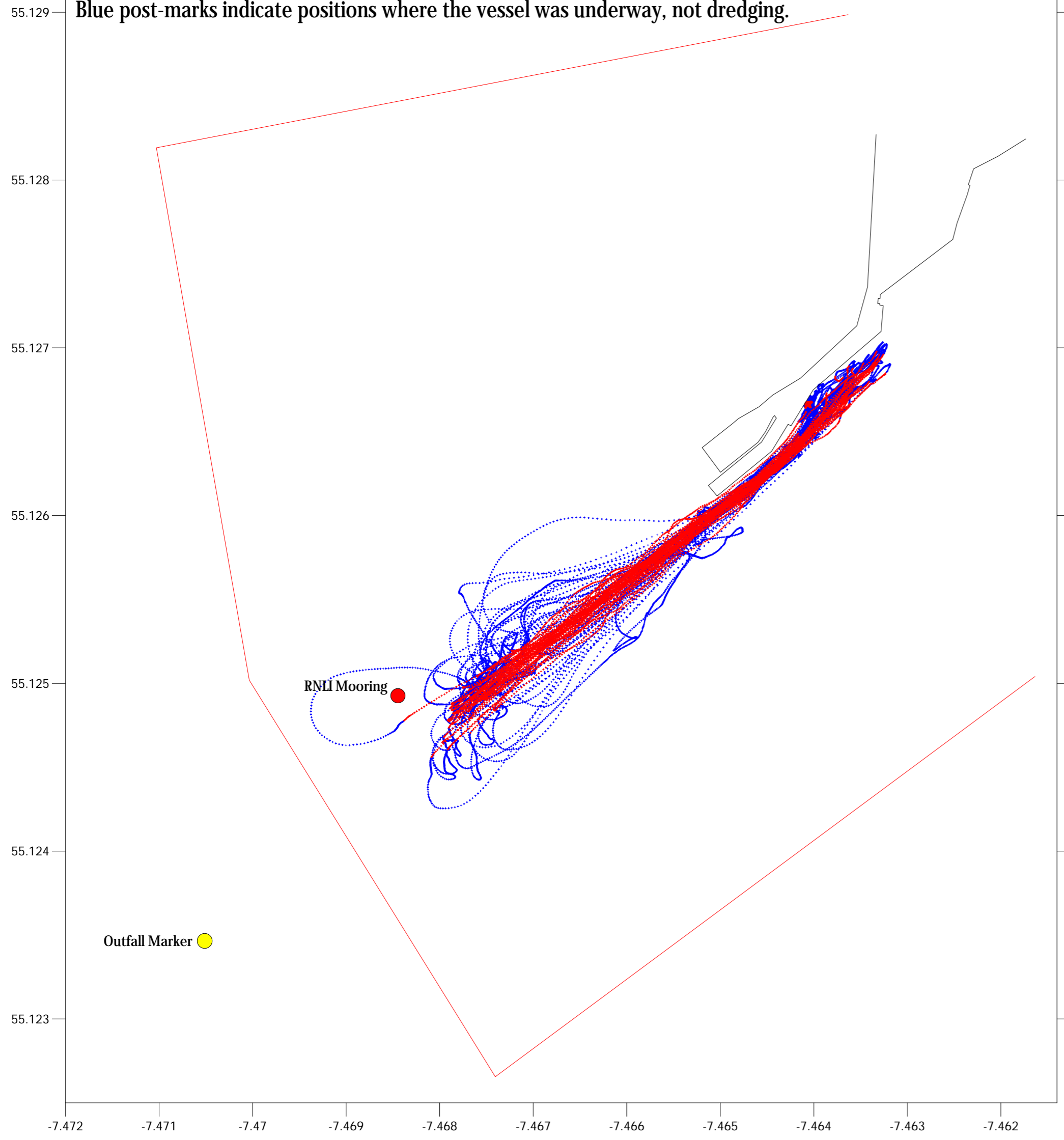


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Dredging Monitor	04JUL20	
Buncrana Spoil Area	Datum: WGS84	

Geodetic Summary

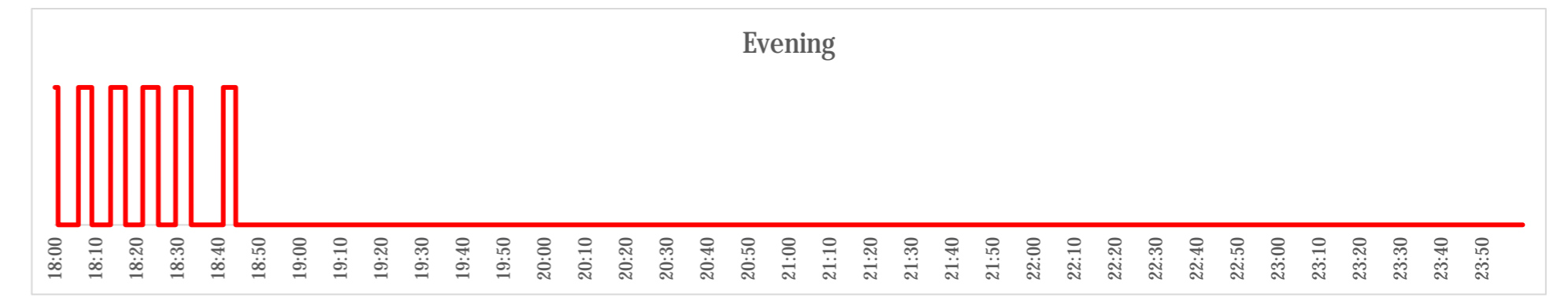
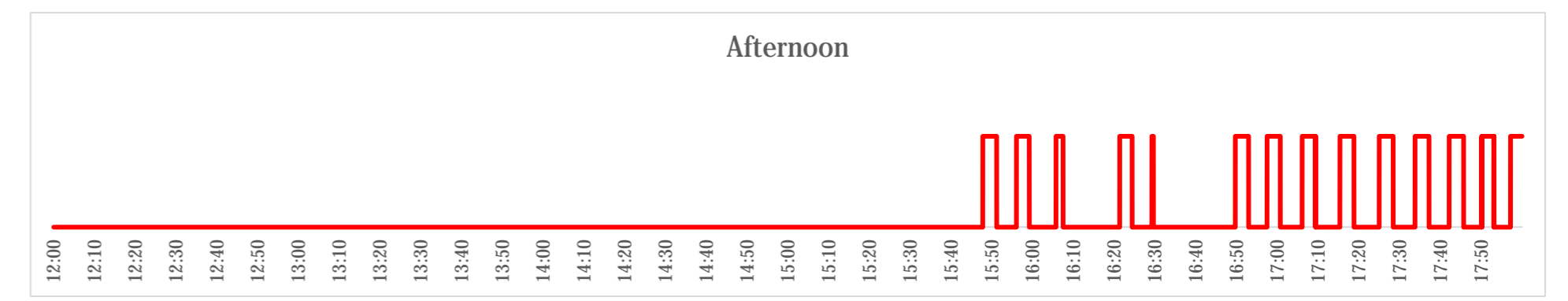
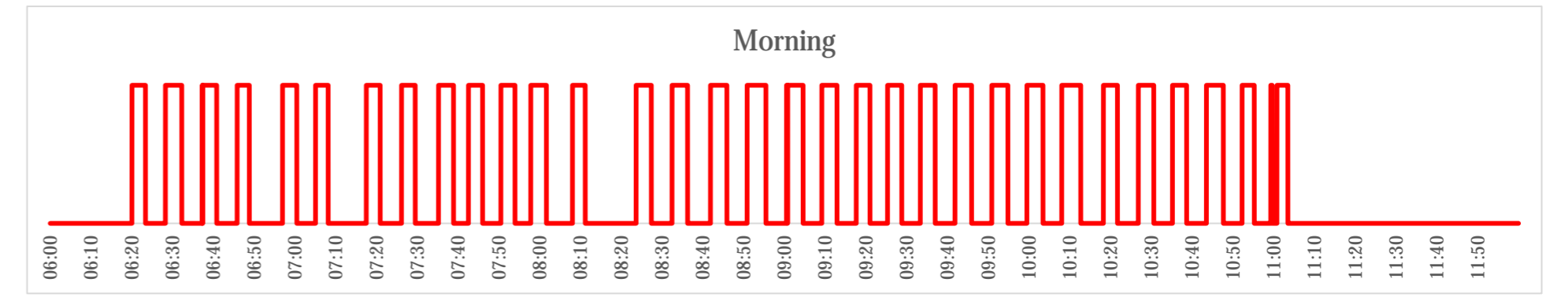
Red post-marks indicate positions where the plough was deployed and under load.

Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms


Histograms indicate the times in UTC where the plough was deployed and under load. Local time was UTC+1.



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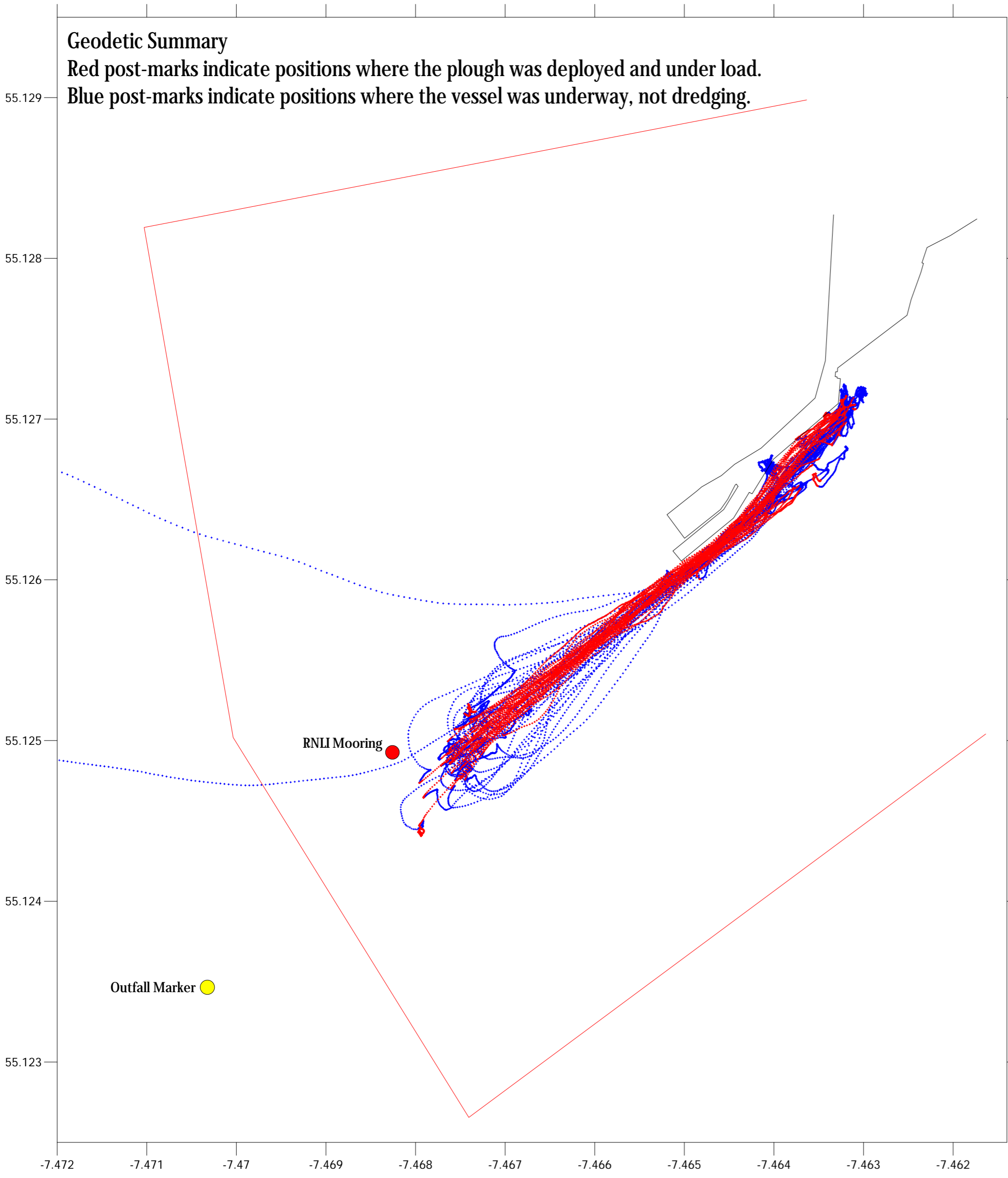
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Dredging Monitor	07JUL20
Buncrana Spoil Area	Datum: WGS84

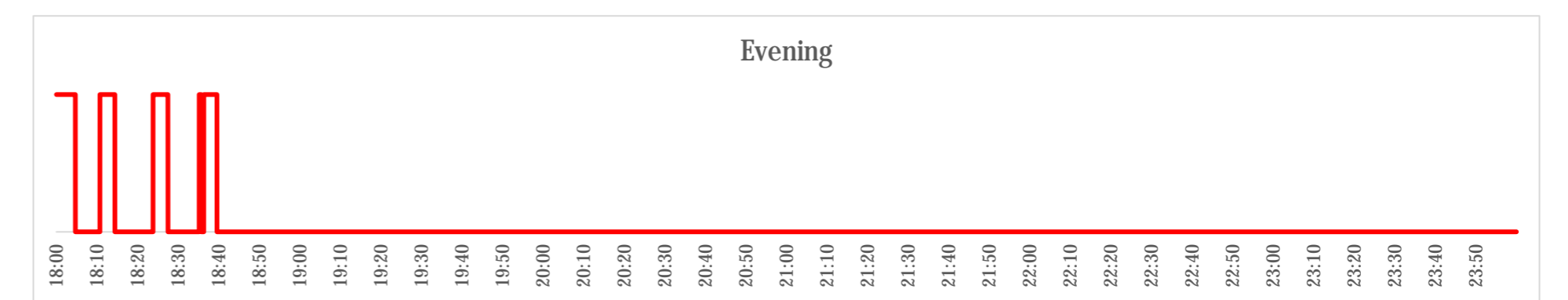
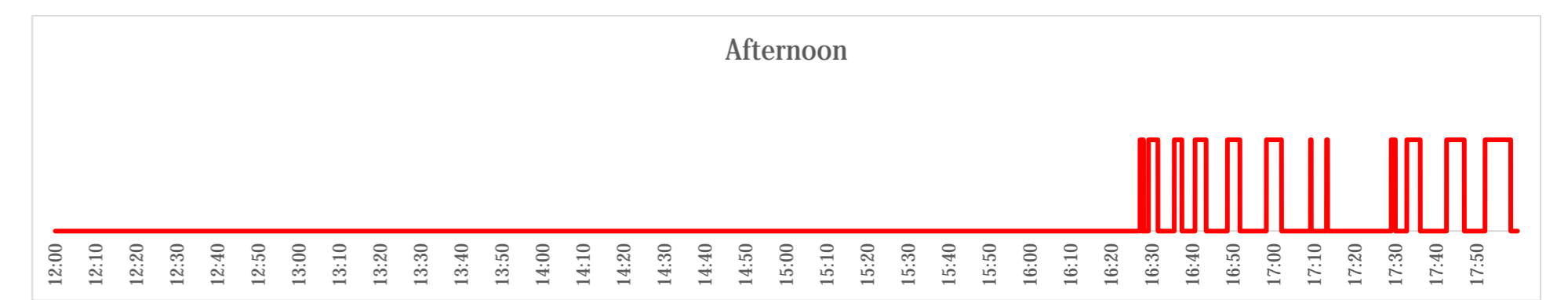
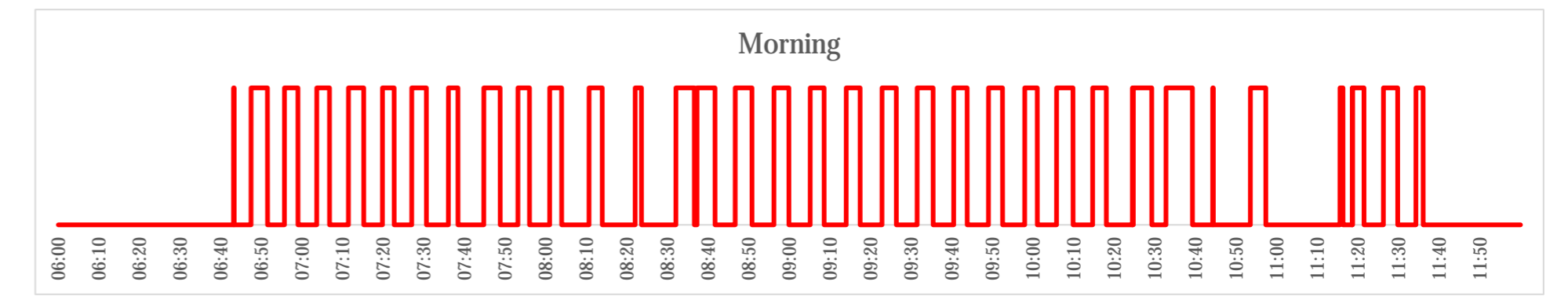
Geodetic Summary


Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.

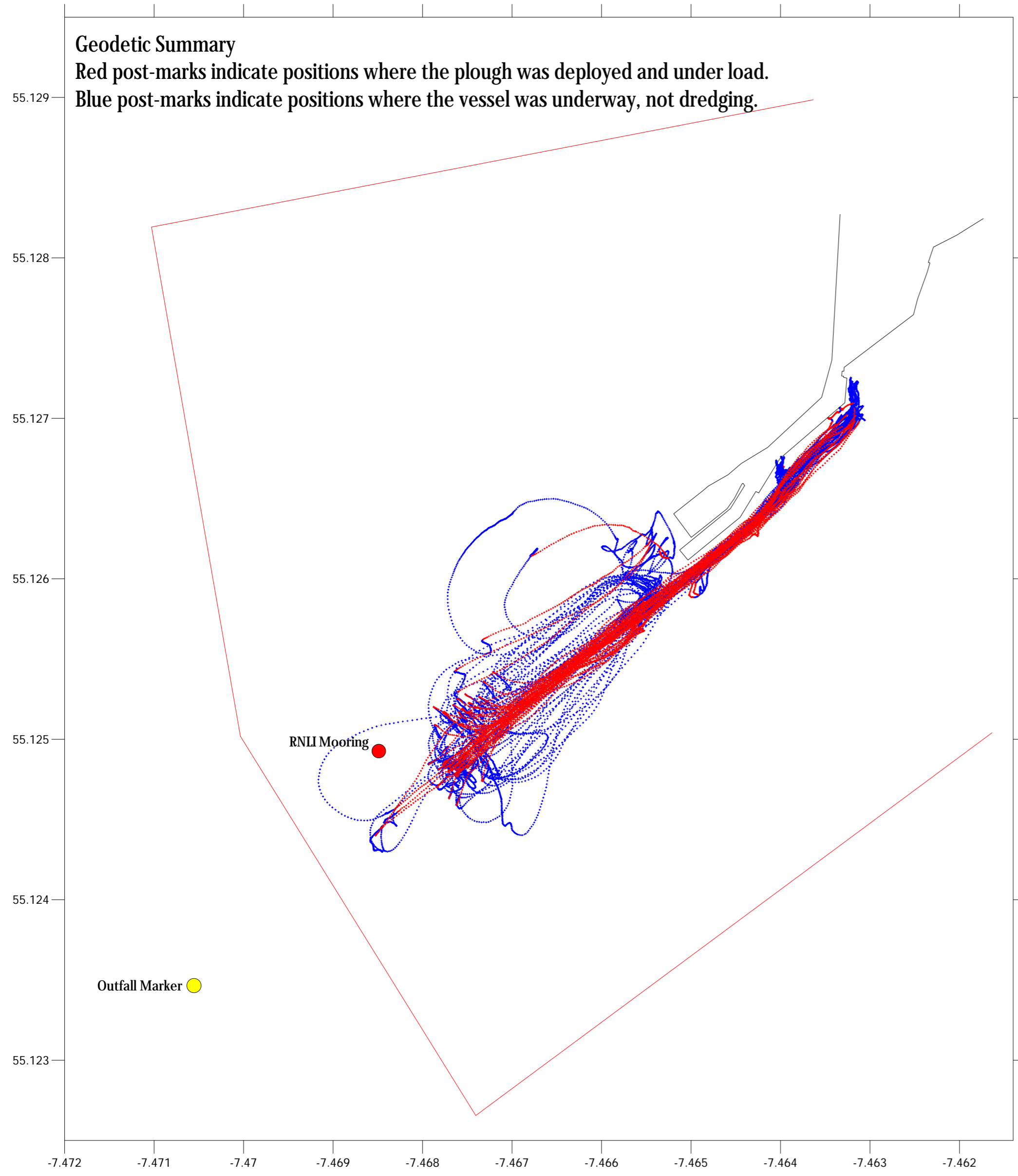


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Dredging Monitor	08JUL20	
Buncrana Spoil Area	Datum: WGS84	

Geodetic Summary

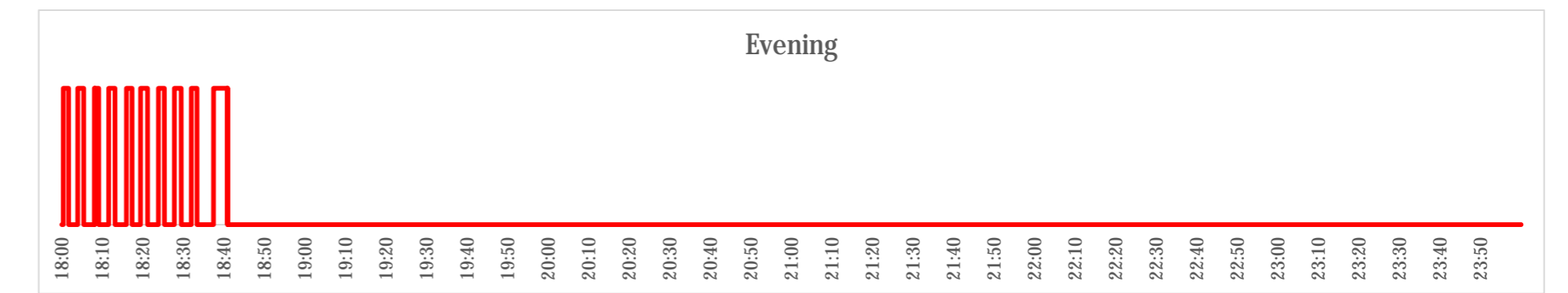
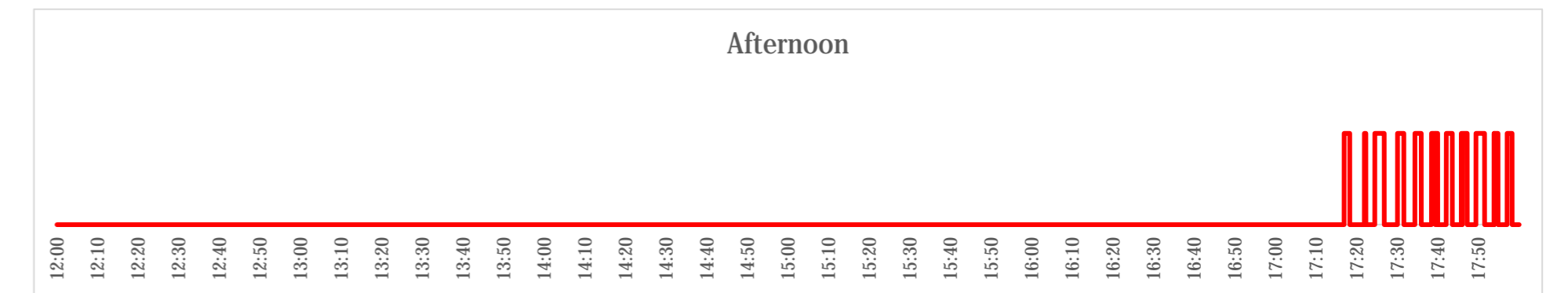
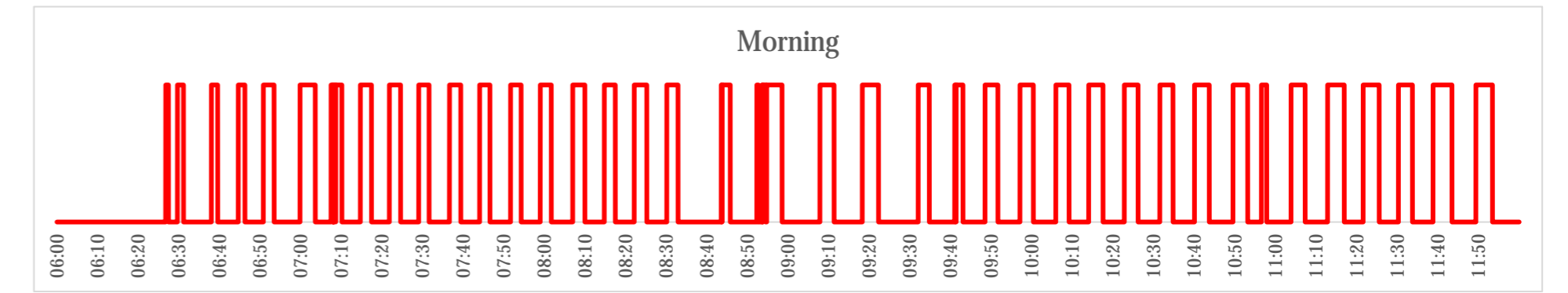
Red post-marks indicate positions where the plough was deployed and under load.


Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load. Local time was UTC+1.

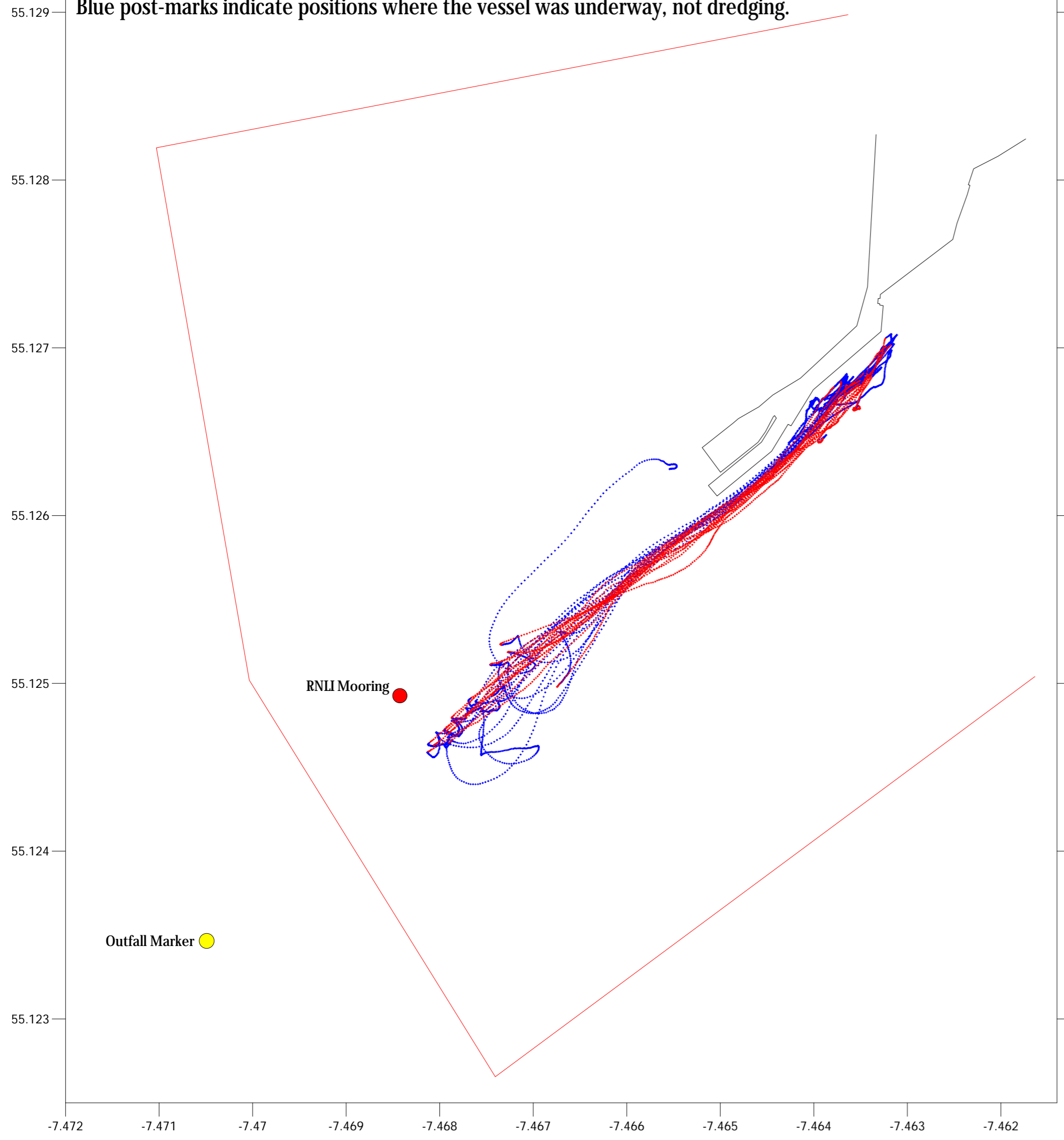


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Dredging Monitor	09JUL20	
Buncrana Spoil Area	Datum: WGS84	

Geodetic Summary

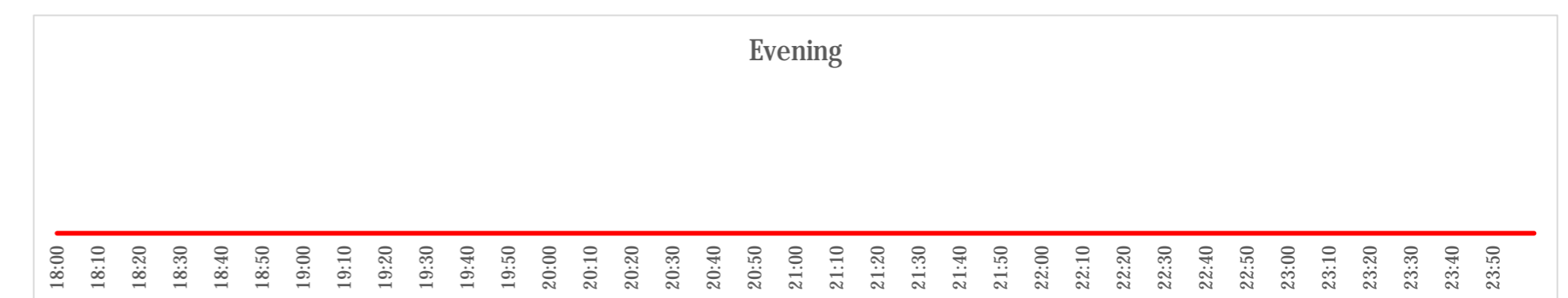
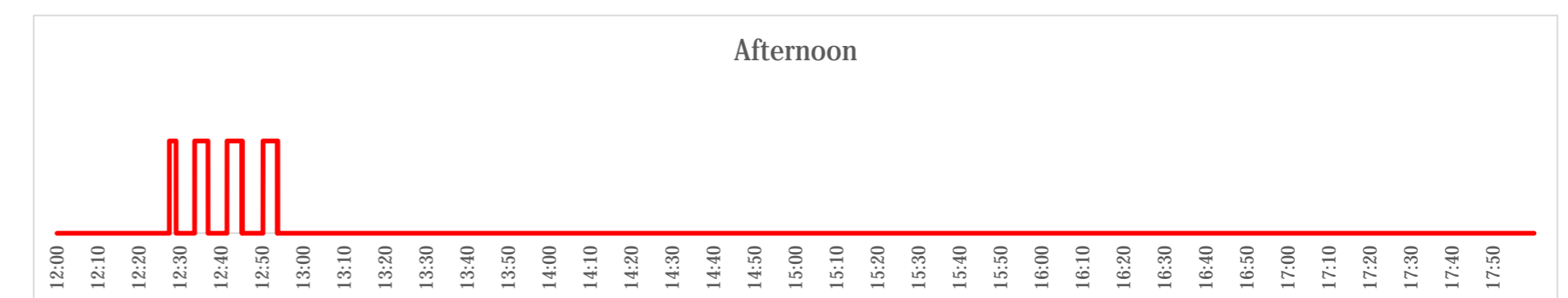
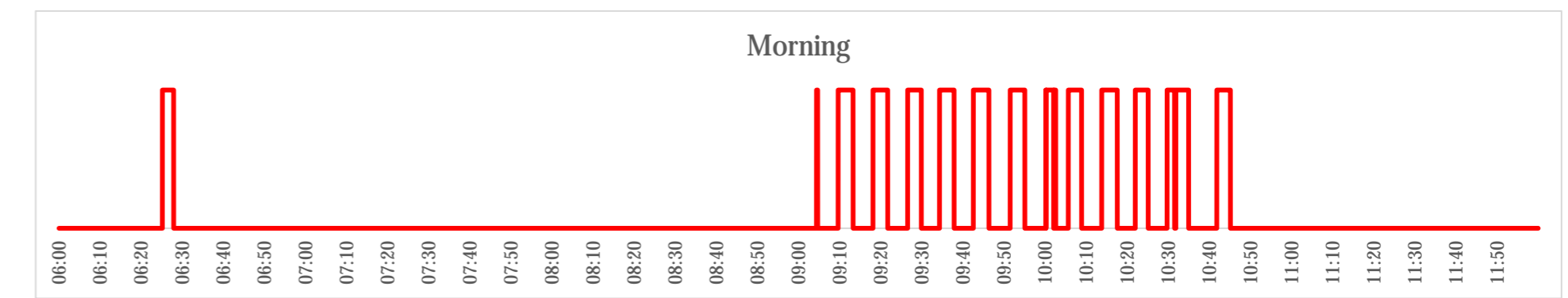
Red post-marks indicate positions where the plough was deployed and under load.

Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms


Histograms indicate the times in UTC where the plough was deployed and under load. Local time was UTC+1.



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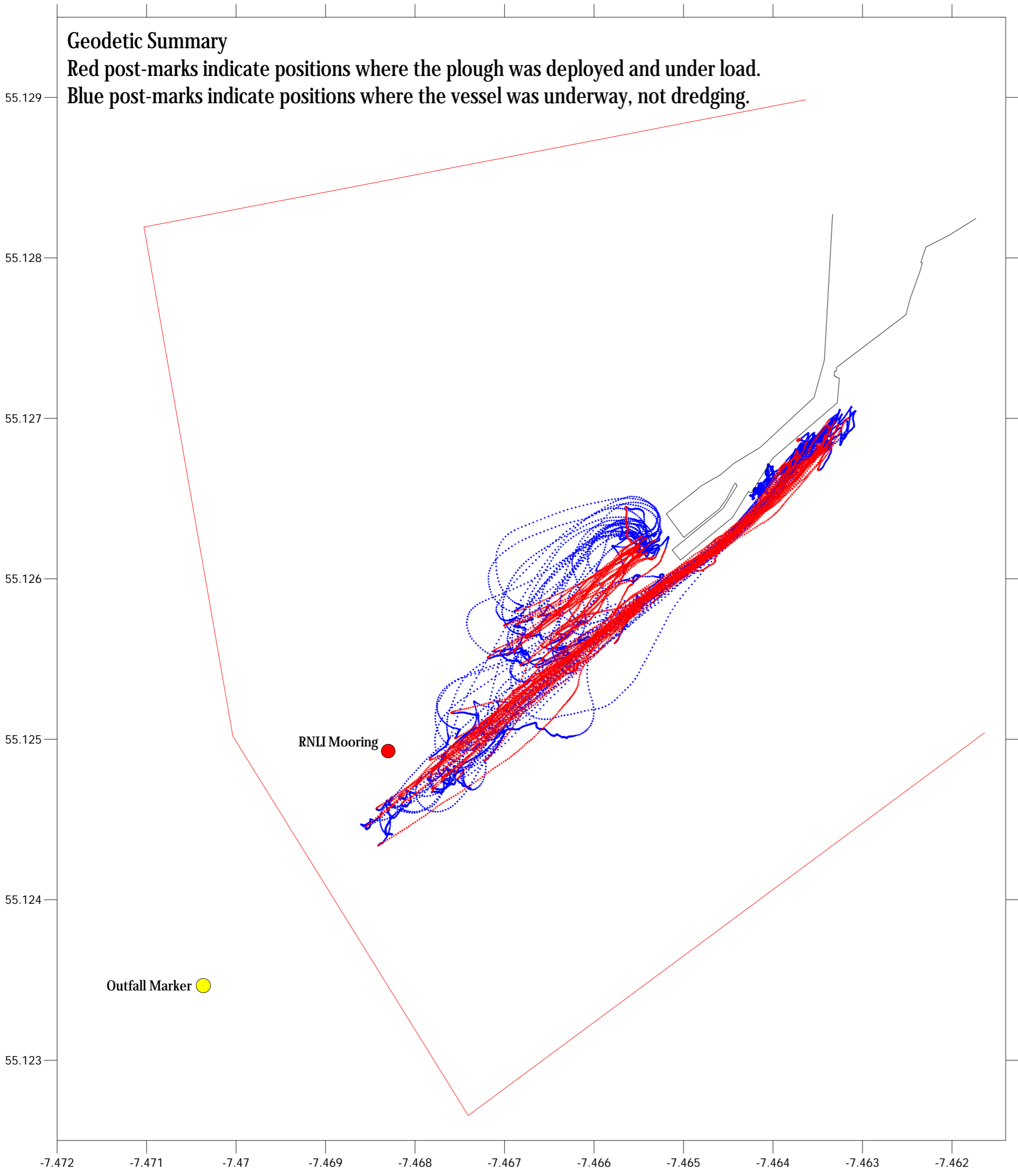
www.iotech.ie



Dredging Monitor	10JUL20
Buncrana Spoil Area	Datum: WGS84

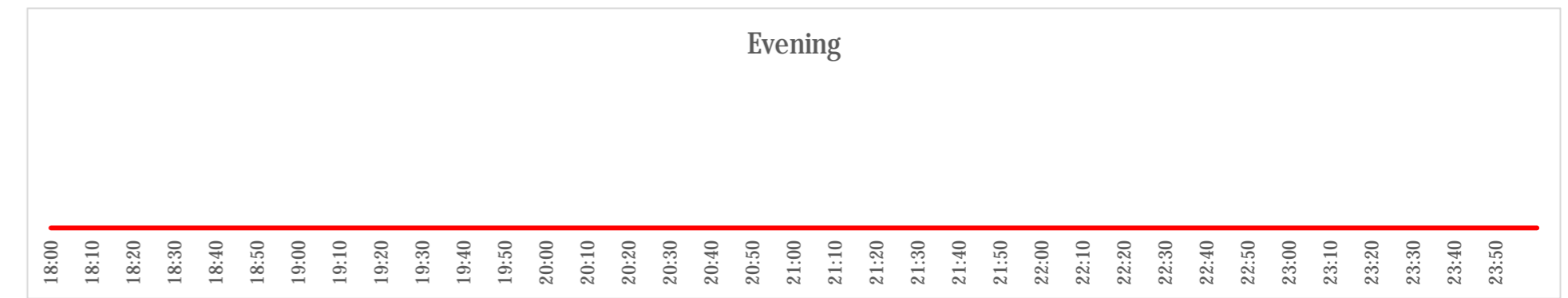
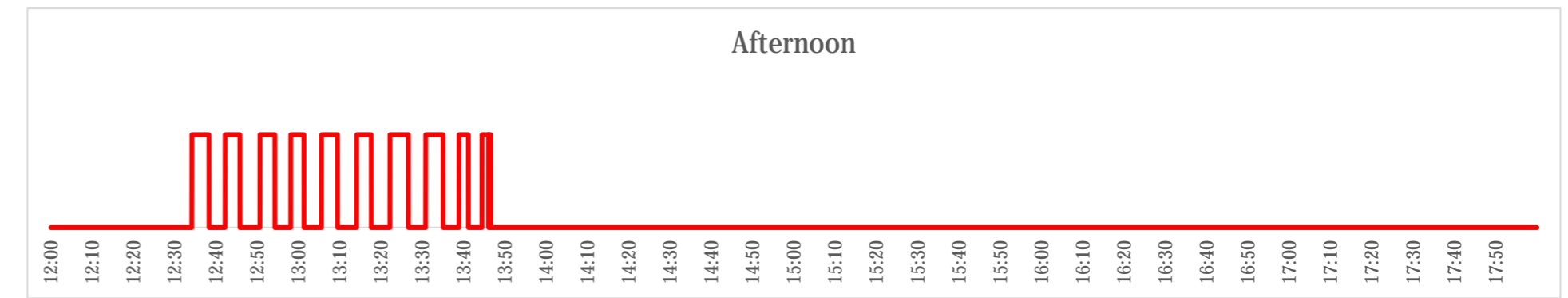
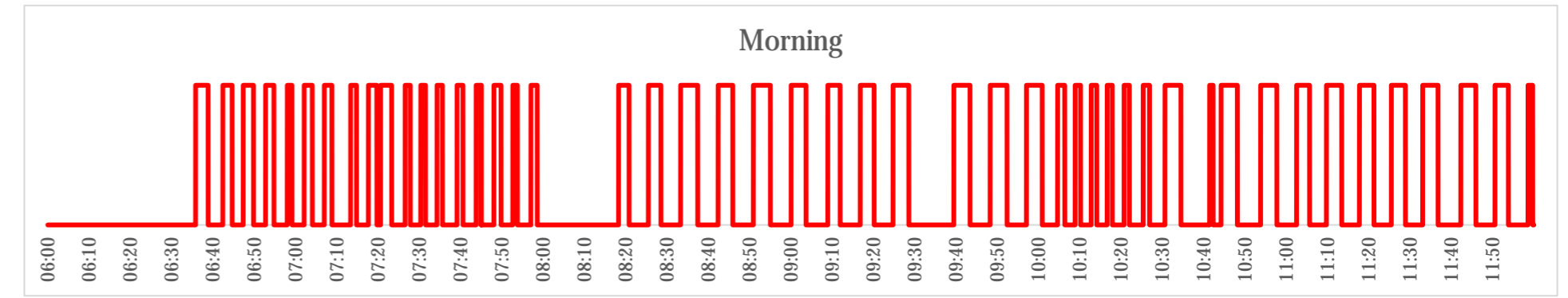
Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms


Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.



Inishowen Technology Ltd.
 Umicam,
 Buncrana,
 County Donegal, F93 P8H0
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 E: survey@iotech.ie

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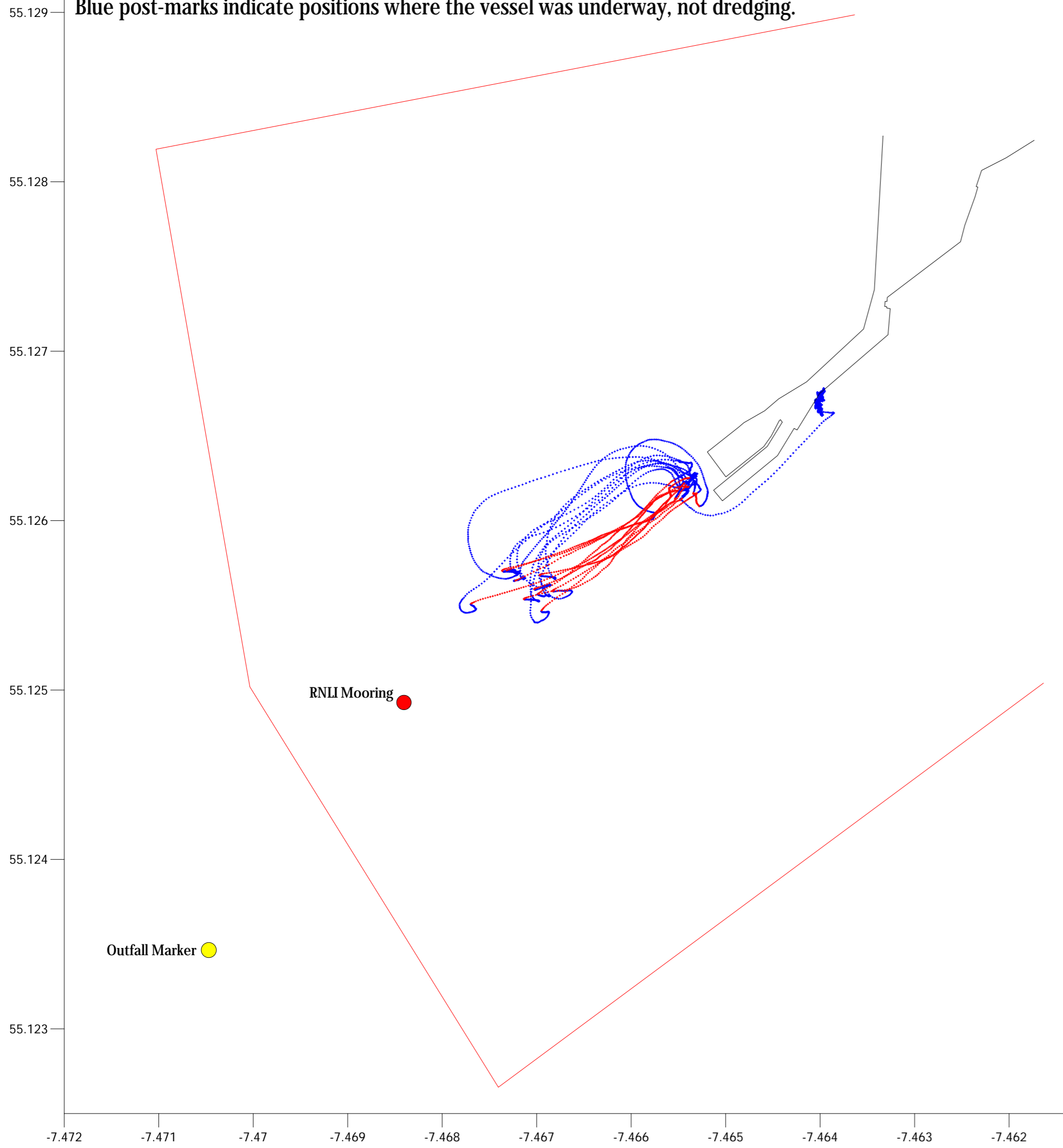


Dredging Monitor	11JUL20
Buncrana Spoil Area	Datum: WGS84

Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.

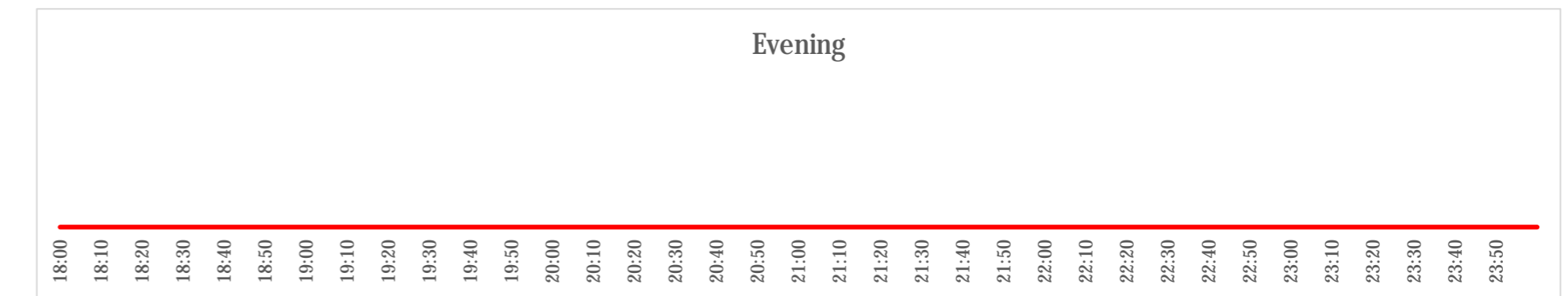
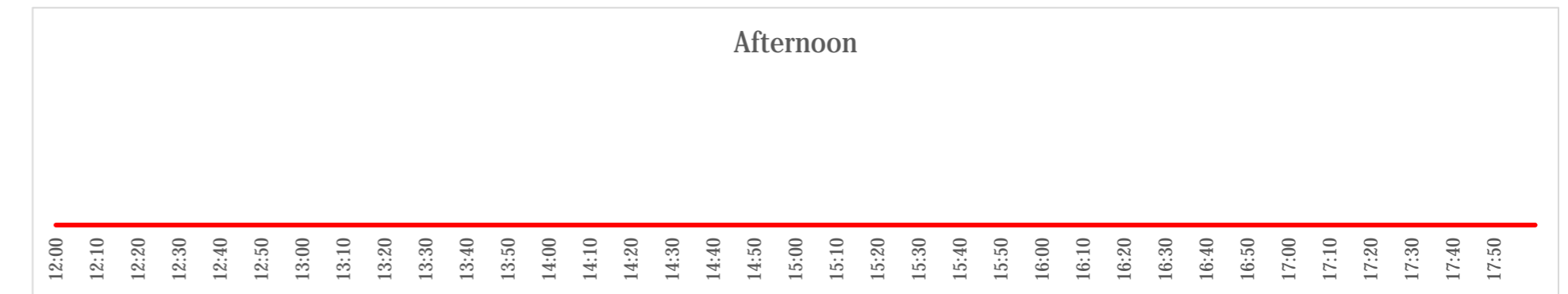
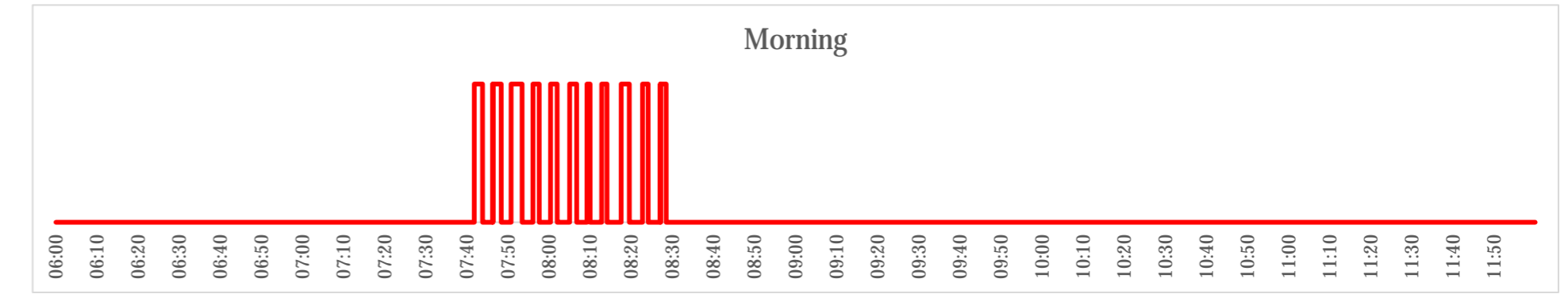
Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.

Local time was UTC+1.

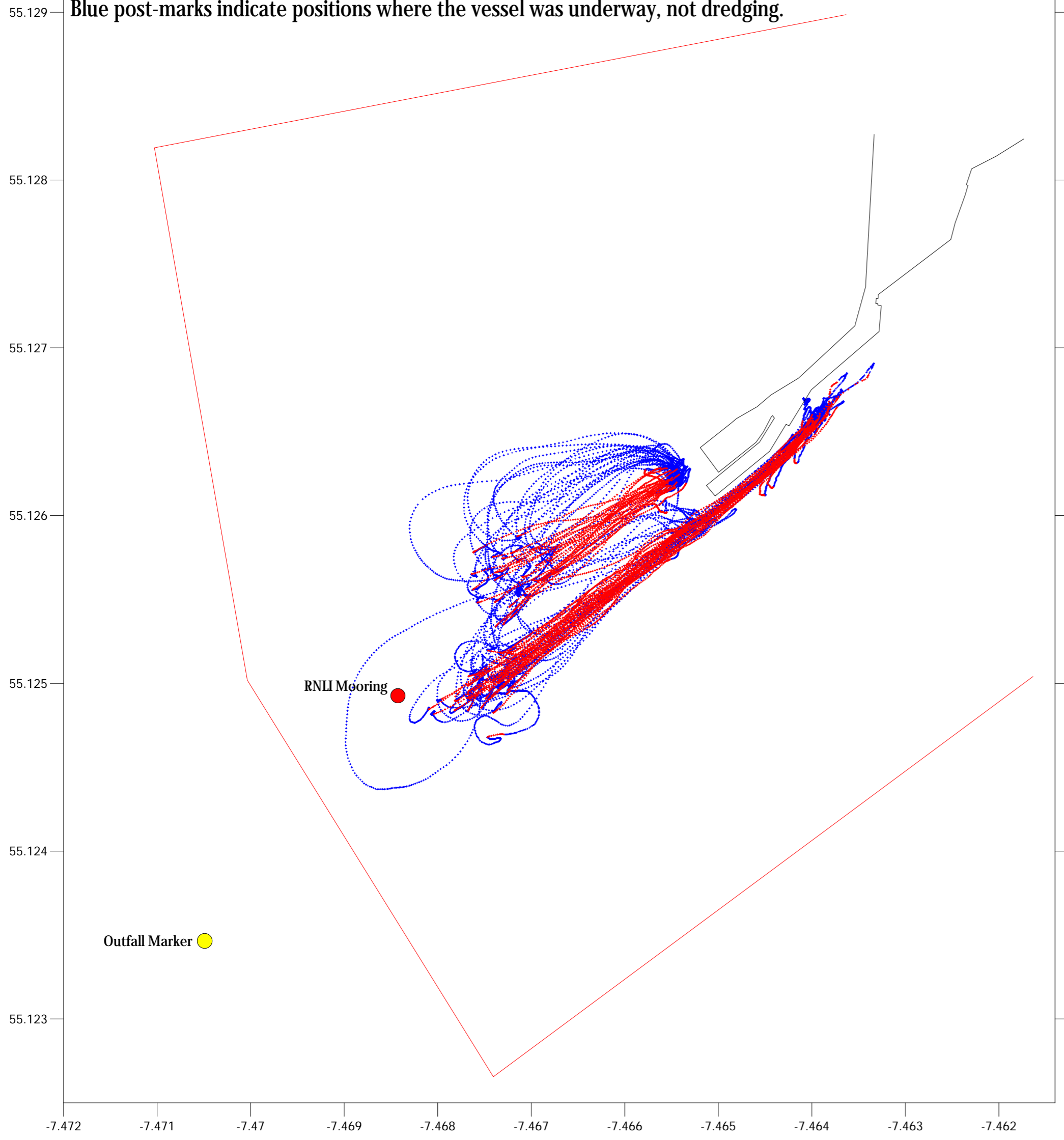


<p>Inishowen Technology Ltd. Umricam, Buncrana, County Donegal, Republic of Ireland.</p> <p>T: +353 74 9363104 F: +353 76-6020725 E: survey@iotech.ie</p> <p>www.iotech.ie</p>		
Dredging Monitor	13JUL20	
Buncrana Spoil Area	Datum: WGS84	

Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.

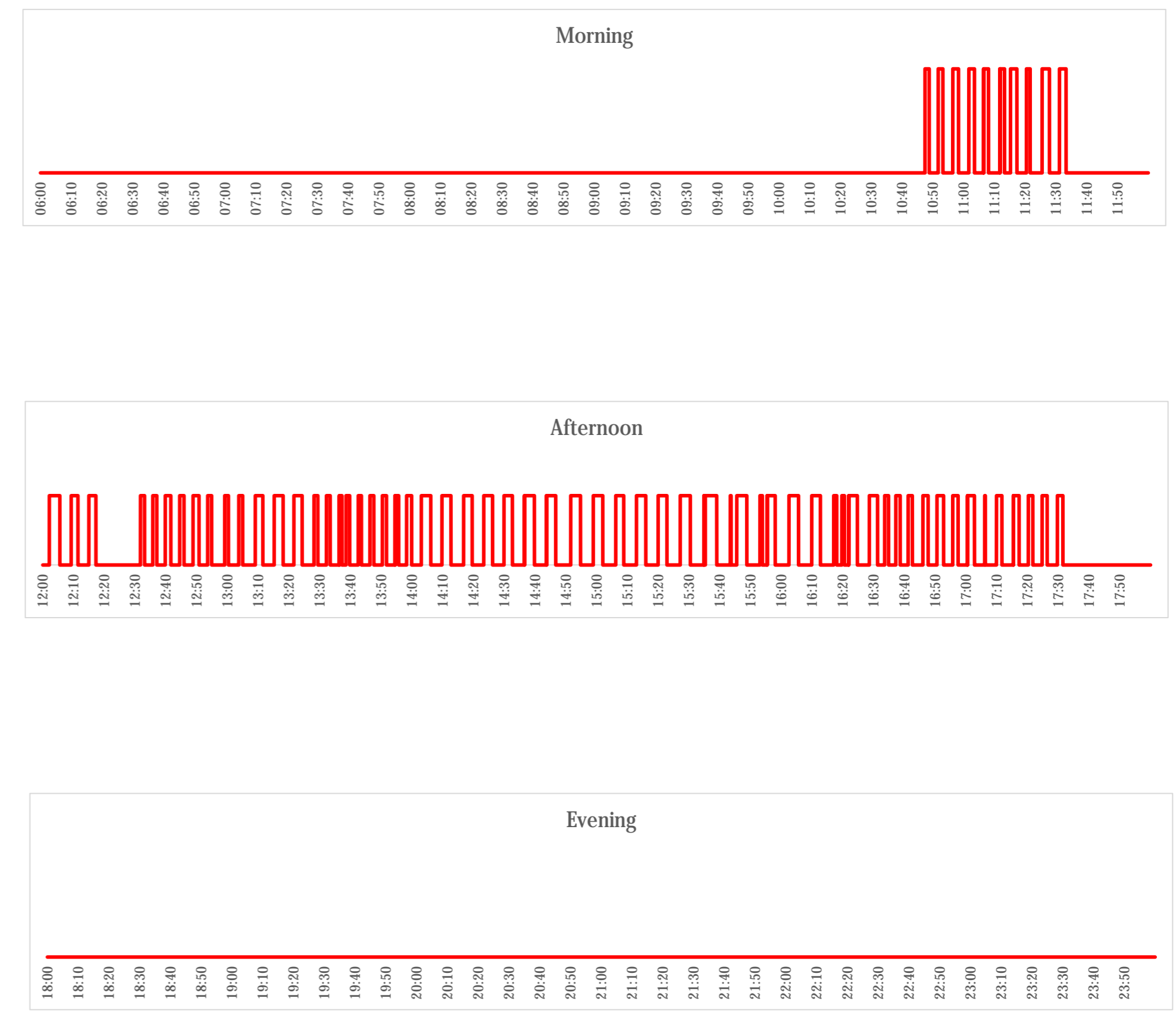
Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms

Histograms indicate the times in UTC where the plough was deployed and under load.

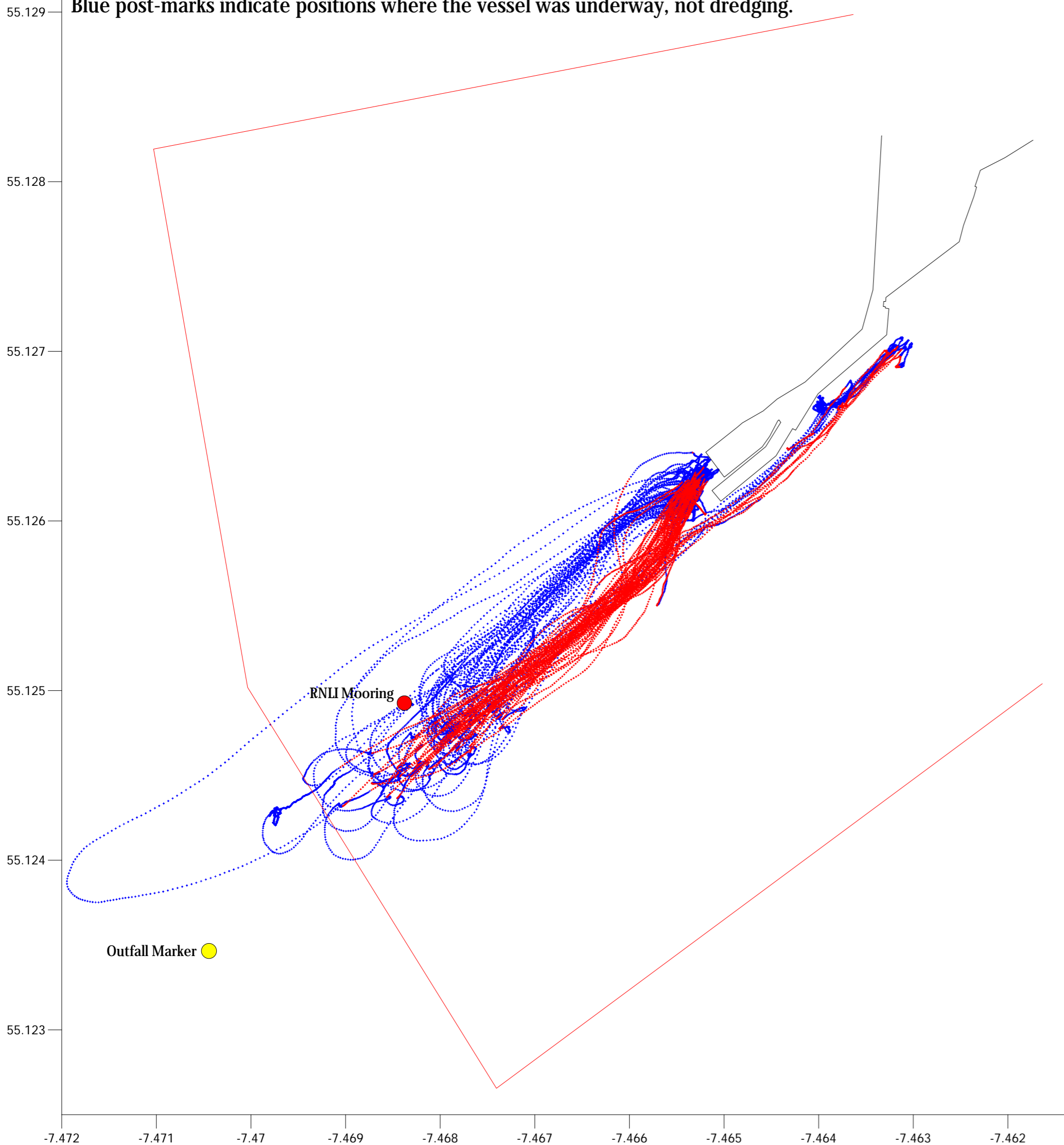
Local time was UTC+1.



Inishowen Technology Ltd. Umricam, Buncrana, County Donegal, Republic of Ireland. T: +353 74 9363104 F: +353 76-6020725 E: survey@iotech.ie www.iotech.ie		
Dredging Monitor	14JUL20	
Buncrana Spoil Area	Datum: WGS84	

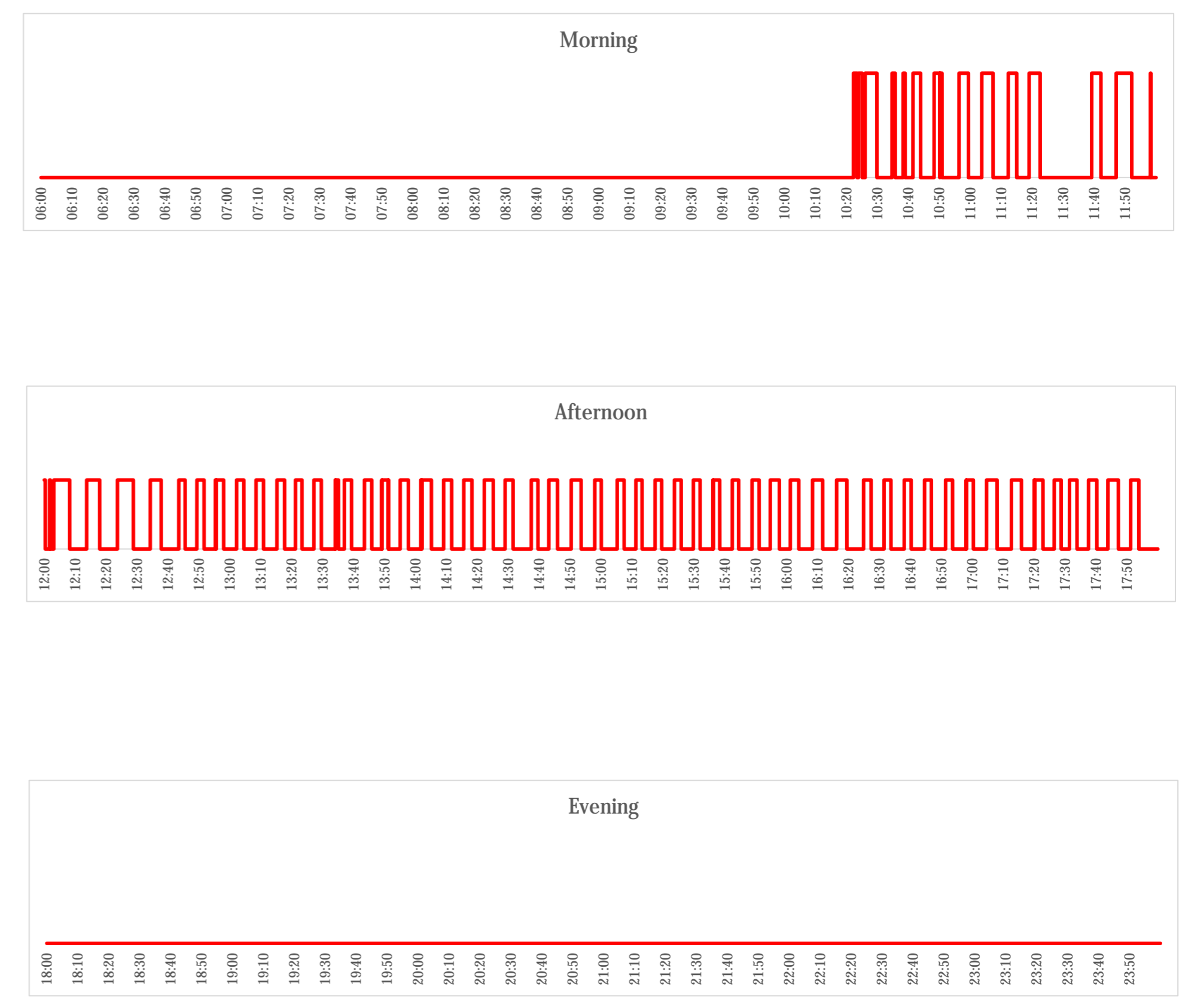
Geodetic Summary

Red post-marks indicate positions where the plough was deployed and under load.
 Blue post-marks indicate positions where the vessel was underway, not dredging.



Loading Histograms


Histograms indicate the times in UTC where the plough was deployed and under load.
 Local time was UTC+1.



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Dredging Monitor	30JUN20
Buncrana Spoil Area	Datum: WGS84

Appendix 2

OSPAR Dumping Report

S0011 - 03 OSPAR RETURN 2020

Additional comments

Permit No.	S0011-03	
Date of issue	06/07/2018	
Amount permitted (tonnes)	64,000	
Capital or maintenance?	Maintenance	
Method of dredging	Plough dredging	
Dumpsite	Buncrana Harbour deep channel >-2m CD contour	

WASTES DUMPED

If permit relates to dredge sediments please complete section A. Otherwise, complete section B

A. DREDGED SEDIMENTS

(a)	Specification of waste (e.g. mud, silt, sand etc.)	sand
(b)	Derived from harbour, estuary or open water?	From within the harbour area adjacent to berth
(c)	Total quantity of wastes dumped (tonnes)?	6397
(d)	Details of any chemical, toxicity and/or other testing carried out on these sediments. (Reports to be attached as separate documents. Include report references, date of analysis, contractors.)	Sediment sampling was completed in Dec 2017 for the permit application. Grab sampling was undertaken by Aquafact and samples were analysed for an agreed suite of parameters. The parameters were agreed with Margot Cronin in the Marine Institute and they were reviewed as part of the application process. All results are on file with the EPA.
(e)	Please provide a map of the area dredged with chemical analysis sampling stations indicated. Please include details of quantities dredged from specific areas.	See AER Section 2 for map and Section 3/Appendix 1 for quantities and logs.
(g)	What monitoring has taken place and by whom? Please attach report.	Marine mammal monitoring by John O'Raw, Niamh O'Raw and Eadaoin O'Raw. Bathymetric surveys by Inishowen Technology.
(f)	Other relevant information	n/a

B. OTHER WASTES

(a)	Specification of waste	n/a
(b)	Derived from harbour, estuary, open water or other (please specify)?	n/a
(c)	Total quantity of wastes dumped (tonnes)	n/a
(d)	Details of any chemical, toxicity and/or other testing carried out on this waste (reports to be attached as separate documents)	n/a
(e)	Please provide a map of the area dredged with chemical analysis sampling stations indicated. Please provide details of specific areas and quantities dredged.	n/a
(f)	What monitoring has taken place and by whom? Please attach report.	n/a
	Other relevant information	n/a

C. DUMPING AREA :

Note: EACH INDIVIDUAL DUMPSITE REQUIRES SEPARATE ENTRY

Dumpsite 1

(a)	Location	Buncrana Pier and Harbour - As shown on Licence application drawings
	Co-ordinates (minimum of 4):	
	Latitude (decimal degrees - WGS 84)	Longitude (decimal degrees - WGS 84)
	55 07.502	7 27.698
	55 07.359	7 28.044
	55 07.501	7 28.202
	55 07.692	7 28.262
	55 07.739	7 27.828
(b)	Quantity of material dumped here	6397 MT
(c)	Origin of material (eg berths, fairway etc)	The material consists of clean sand which has recently deposited in the berthing area on the south face of Buncrana Pier and the approach channel to the harbour. The material is dredged out to a large area of deep channel located beyond the -2m CD contour.
(d)	Depth (metres)	-2
(e)	Distance from coast (km)	160m
(f)	Tidal flows	varies
	Direction (degrees)	varies with tides and current
	Maximum speed (m/s knots)	
(g)	Method of dumping (if more than one vessel involved, give the range of loads and discharge conditions)	Plough dredging by Otterbank
(i)	Vessel(s) load (tonnes)	Each trip the vessel carries 6.3 tonnes. See Appendix 1 Dredging/Dumping Logs.
(ii)	Manner of discharge from vessel	Bottom opening doors on the vessel
(iii)	Rate of discharge (te/day)	Varies per day due to weather, tides, volume dredged etc, but outlined in Dredging/Dumping Logs Appendix 1.
(iv)	Speed of vessel while dumping (m/s or knots)	varies
(h)	Other relevant information (e.g. residual water movements):	

Appendix 3

Donegal County Council Incident Reporting Form

All incident must be reported and investigated in line with Donegal County Council Policy & procedure for the Reporting and Investigation of Incidents available on the intranet at the following link:

[Incident Reporting and Investigation Forms](#)

Incident report Forms, incident investigation form and incident close out form are available to download at the above lint.

Appendix 1- Incident report

Donegal County Council

Incident Report Form

Type of incident:

- | | |
|--|---|
| <input type="checkbox"/> Health complaint due to work activity | <input type="checkbox"/> Accident causing injury |
| <input type="checkbox"/> Damage to property or equipment | <input type="checkbox"/> Dangerous Occurrence |
| <input type="checkbox"/> Near Miss | <input type="checkbox"/> Violent or threatening behaviour |

Location of Incident:

Date of incident:

Time:

Complaint/Description of incident: (Give a brief account of what was happening before the incident/accident and what went wrong)

PLEASE DO NOT IDENTIFY INDIVIDUALS INVOLVED BY NAME, KEEP IT BRIEF AND TO THE POINT

Details of Injury: (If someone was injured, please provide the following details if known)

Were they

- An Employee
- A Contractor
- A Member of Public

Did they Require medical Treatment

- First Aid
- Referral to GP
- Hospital/A&E

Are likely to be unable to return to work for:

- Less than 3 days
- More than 3 days

Have you notified HR

Directorate:

Reported by
(Supervisor) :

Date Reported:

Save this form on your local drive, complete, and email to: accident@donegalcoco.ie Photographs may be attached to the document and email to the above address

Appendix 2 – Incident Investigation Form

SECTION A: INCIDENT DETAILS

Tick if it is HSA Reportable Tick if HR has been notified

Accident causing Injury Dangerous Occurrence Damage To Property/Equipment Near Miss Health Complaint Due To Work Activity Violence & threatening behaviour

Other Please Specify: _____

Incident Date:	Time:	Location:
Date Reported By Employee:		Date Reported To Line Manager:
Is there any Photographic evidence, who took them & are they Available? Yes <input type="checkbox"/> No <input type="checkbox"/>		

SECTION B: PERSON INVOLVED/INJURED PARTY

Name of Injured Person:	Section/Work Area:
Employee No (If applicable):	
Job Title:	Work Phone No:
Please Select: Staff Member <input type="checkbox"/> Contractor <input type="checkbox"/> Member Of Public <input type="checkbox"/> Other _____	
Please Select Approximate Age: Less Than 25 <input type="checkbox"/> 25-35 <input type="checkbox"/> 36-45 <input type="checkbox"/> 46-55 <input type="checkbox"/> More Than 55 <input type="checkbox"/>	

SECTION C: INJURY DETAILS

Amputation Bite Bruising Burns/Scalds Chemical Burns Concussion Cuts/Abrasions Crushing Electric Shock Eye Injury Fracture Hearing Loss Internal Injuries Irritation Sprain/Strain No Injury Other _____

Body Part Injured: Abdomen Arm Back Chest Ear Eye Face Foot Finger Hand Head Knee Leg Shoulder Toe No Injury Other

Please Specify Exact Area: _____

SECTION D: INJURY TREATMENT

Workplace First Aid Received? Yes <input type="checkbox"/> No <input type="checkbox"/>	Is Employee Back At Work? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Was The GP Attended? Yes <input type="checkbox"/> No <input type="checkbox"/>	If Back, How Many Days Were They Absent?
Was the Hospital Attended Yes <input type="checkbox"/> No <input type="checkbox"/>	

SECTION E: TYPE OF INCIDENT WHICH CAUSED INJURY

<input type="checkbox"/> Slips, trips or fall on the same level	<input type="checkbox"/> Contact with a hot substance
<input type="checkbox"/> Fall from a height of _____mtr	<input type="checkbox"/> Contact with a chemical substance
<input type="checkbox"/> Struck by a falling, moving or flying object	<input type="checkbox"/> Contact with a biological substance
<input type="checkbox"/> Injured by a vehicle on a public road	<input type="checkbox"/> Contact with a sharp object
<input type="checkbox"/> Injured by a vehicle on a work site	<input type="checkbox"/> Contact with electricity
<input type="checkbox"/> Trapped or crushed by an object or machinery	<input type="checkbox"/> Physical stress or strain to the body

Other, please specify:

SECTION F: ITEMS/MACHINERY INVOLVED IN INCIDENT

SECTION G: INCIDENT DESCRIPTION *[Use Additional Sheet If Necessary]*

SECTION H: WITNESS STATEMENT *[Use Additional Sheet If Necessary]*

SECTION I: INCIDENT CAUSATION

Immediate Cause[s]:

Root Cause[s]:

SECTION J: CORRECTIVE ACTION REQUIRED

Accident Report Completed By _____ **Date:** _____

Line Manager: _____ (Print Name)

Received By The H & S Officer: _____ **Date:** _____

Incident Number: _____ **Corrective Actions Assigned:** _____

Appendix 3 – Close out Form

Donegal County Council Close out Form				
A. Appropriate Line Manager carrying out investigation in conjunction with Safety Officer				
Line Manager:	Safety Officer:			
Date of Incident:	Incident Number:			
Name of Witnesses that were spoken to and any other relevant personnel (attach statements & photographs as necessary)				
B. Accident / Incident Findings				
After a review of all facts, what were the unsafe work practices, unsafe plant /equipment or unsafe system of work or other factors i.e. People and Environment that contributed to the incident				
C. Corrective Actions:				
Identify corrective actions that need to be taken to prevent similar incidents				
Corrective Actions	Responsible Person	Date Implemented		
D. Communication of Incident				
This Incident can only be concluded when corrective actions are implemented and communicated to all relevant employees in the relevant Directorates				
<table border="0"> <tr> <td style="padding-right: 20px;">Concluded</td> <td>Yes</td> </tr> </table>			Concluded	Yes
Concluded	Yes			
E. Signature of Appropriate Line Manager:				
Date				

Appendix 4

Hydrography & Bathymetry Survey Reports

Report 1 on the Buncrana Pier Area Dredge Campaign June-July 2020

Contents

Summary	2
Pre-Dredge Survey of 14 th June 2020.....	5
Survey of 27th June 2020.....	6
Survey of 17th July 2020	8

Summary

The dredging campaign from June to July 2020 concentrated on the south channel, primarily for use by the lifeboat. Some work was also done at the approaches to the slip. The target was for a clear channel of -1.5m to CD along the pier from the lifeboat berth to the -1.5m contour.

In Figure 1, the red area marks the box where spoil deposits were expected from the dredging operation as per EPA Dumping at Sea Permit S0011-03, Schedule A2.

In the pier area, single beam bathymetry was carried out with maximum line spacing of 10m.

Tidal compensation was to Buncrana Pier Tide Gauge, which is

- +.4m to local chart datum
- +54.73m to ETRS89
- -2.7m to OD MSL Malin Head

Diagrams are Irish Grid as specified by the client.

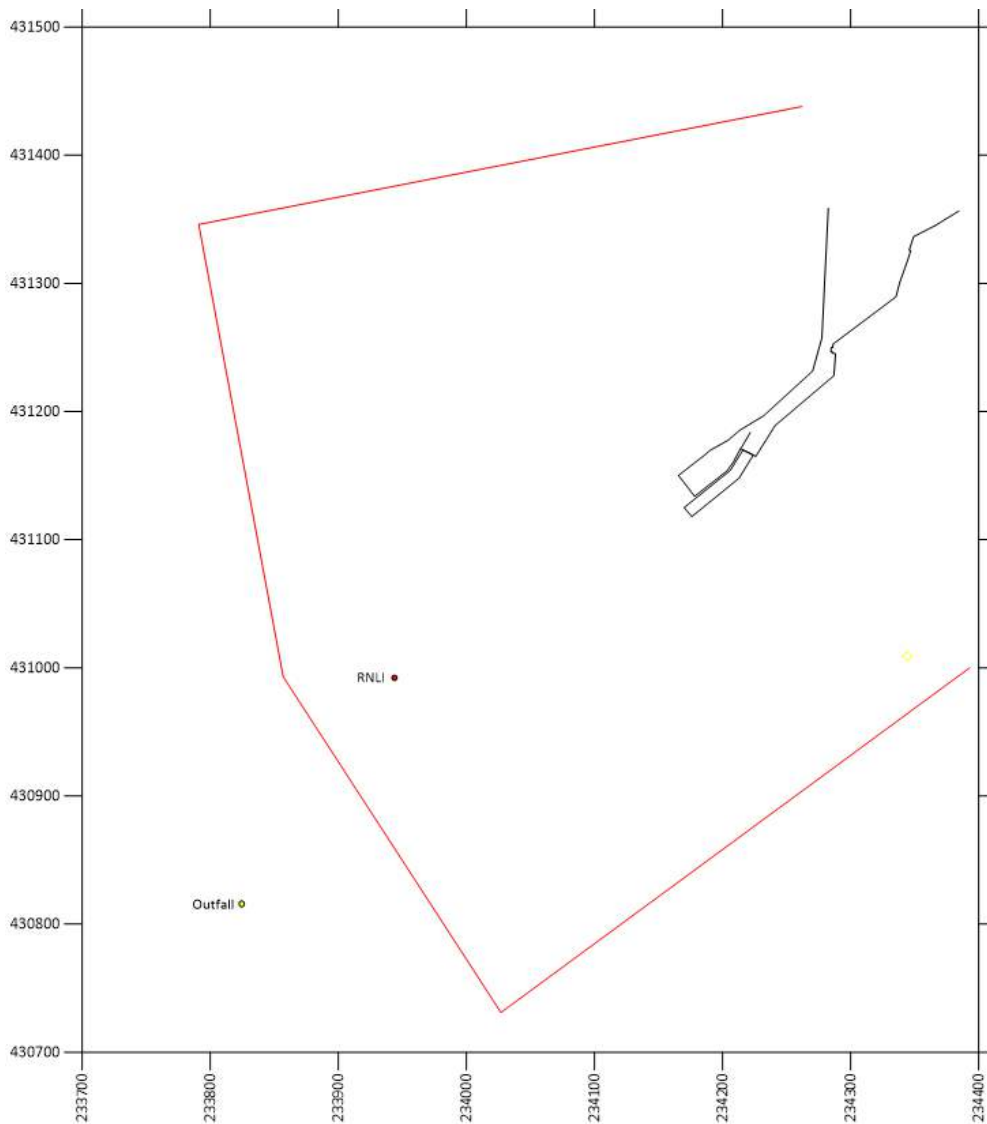


Figure 1. Defined areas in Irish Grid

To aid interpretation, arbitrary profile lines have been determined along the optimal route for the lifeboat, assuming the ferry is berthed. A similar arbitrary line has been defined from the middle of the slip through the extent of the planned dredge area at the slip. These are shown in Figure 2 in green.

The agreed dredge areas for the 2020 campaign are shown in red.

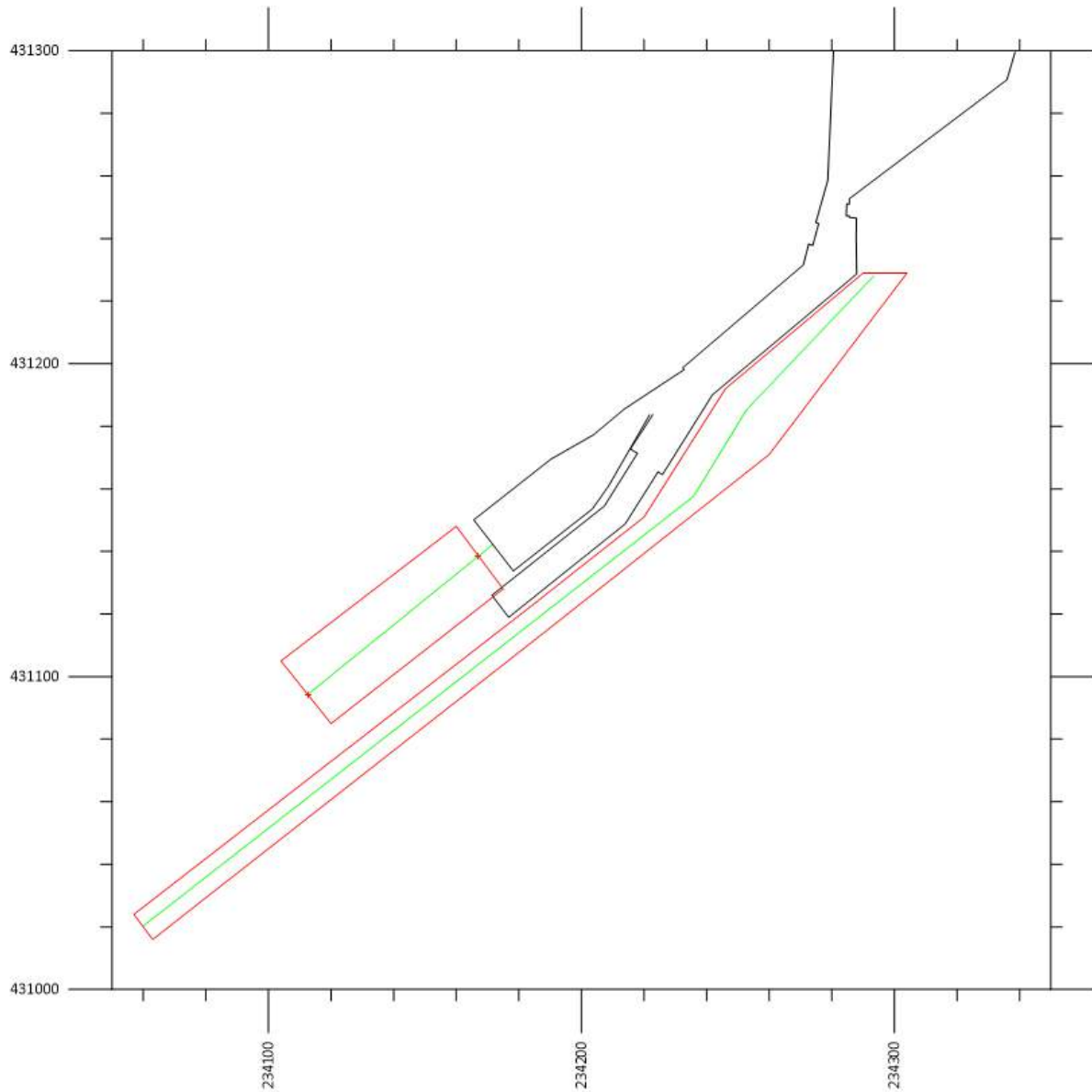


Figure 2. Dredge areas lines for arbitrary profiles

Inishowen Technology Ltd.

Over June and July, three surveys were carried out in support of the dredging campaign.

14 th June	Pre-dredge survey of pier and spoil area.
27 th June	Minimal survey after first phase, limited area.
17 th July	End of campaign survey of pier and spoil area.

This report only considers the loading area. The spoil area is analysed in a separate report.

Pre-Dredge Survey of 14th June 2020

Data was taken on 14th June prior to the commencement of dredging and a representation is shown in Figure 3.

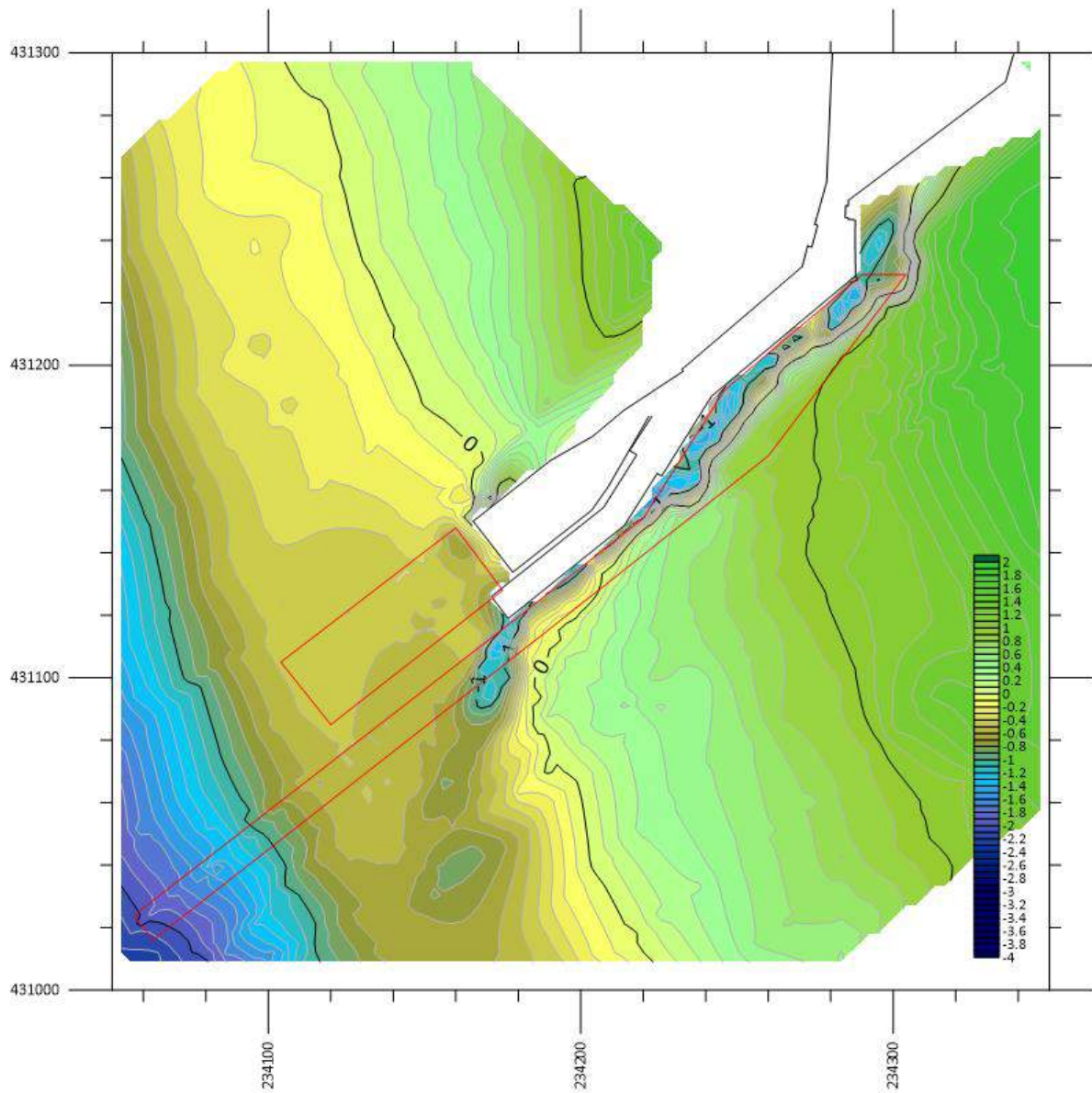


Figure 3. Pier area as of 14th June 2020

Survey of 27th June 2020

The first 10-day campaign concentrated on the south channel, working westwards. Minimal Data was taken of this area on 27th June after the first dredging campaign to assess efficacy. A representation is shown in Figure 4.

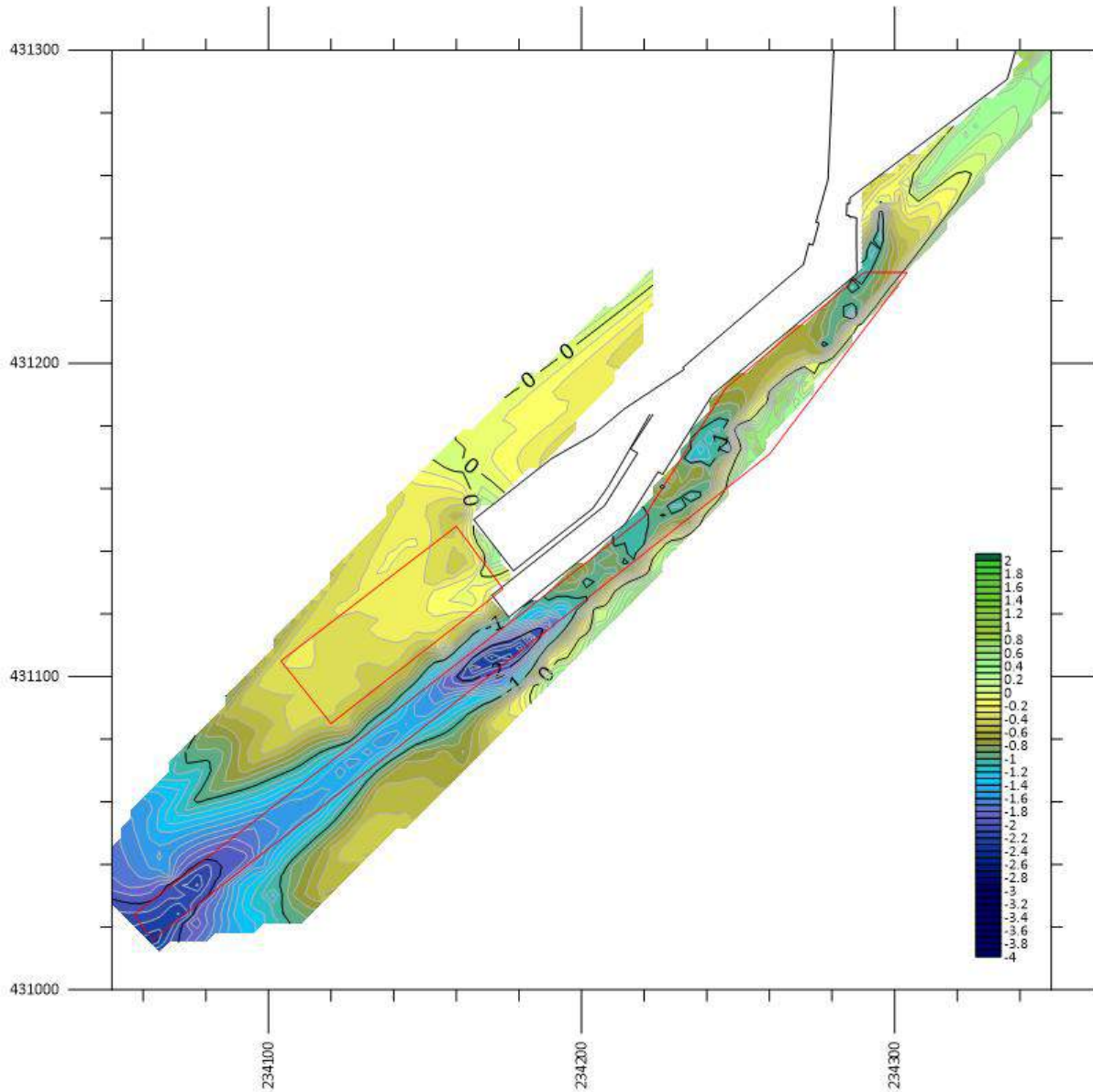


Figure 4. Pier area as of 27th June 2020

This is more clearly seen in a differential profile from the steps to the -2m contour, c. 220m as represented by the green line in Figure 5.

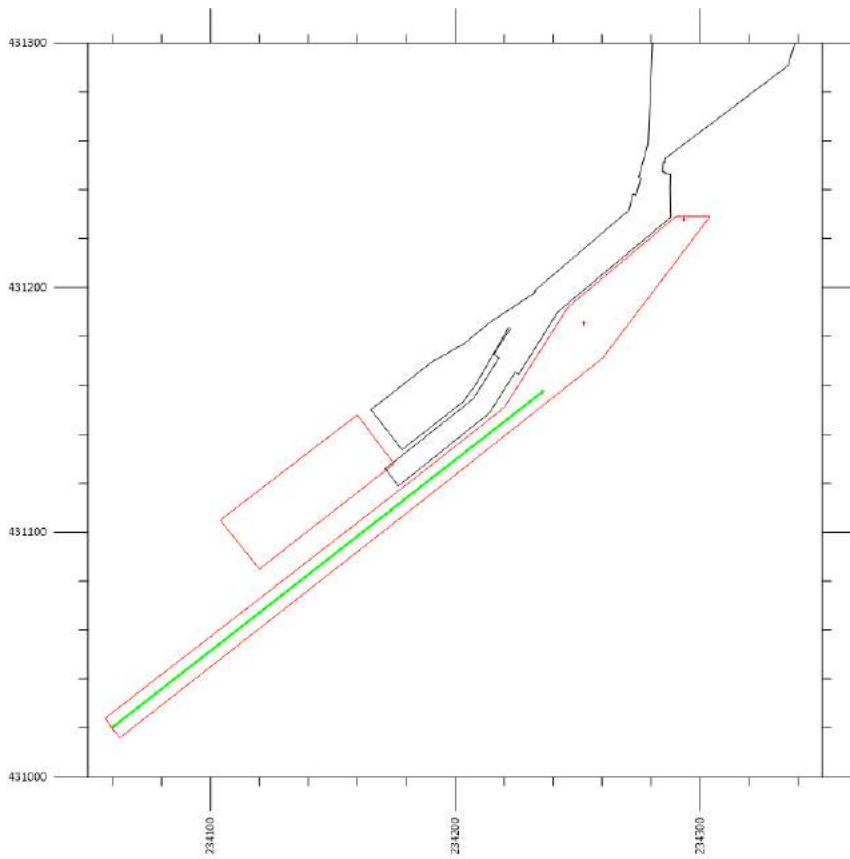


Figure 5. Differential profile between 14th June and 27th June 2020

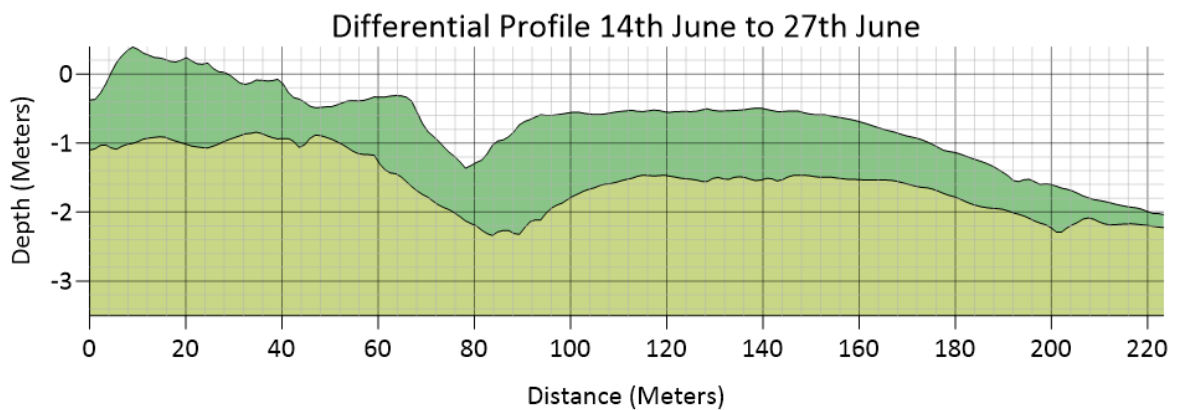


Figure 6. Differential profile between 14th June and 27th June 2020

In Figure 6, the profile from 27th June shows in light green, 14th June shows in darker green. The east (left) end of the profile is c. 14m south of the steps. A volume calculation for (indicative purposes only) showed a differential of **1,528 M³**.

Survey of 17th July 2020

The second campaign worked from the lifeboat berth westwards, and dredging was also carried out at the slip. Figure 7 shows the state of the loading area at the end of the second campaign.

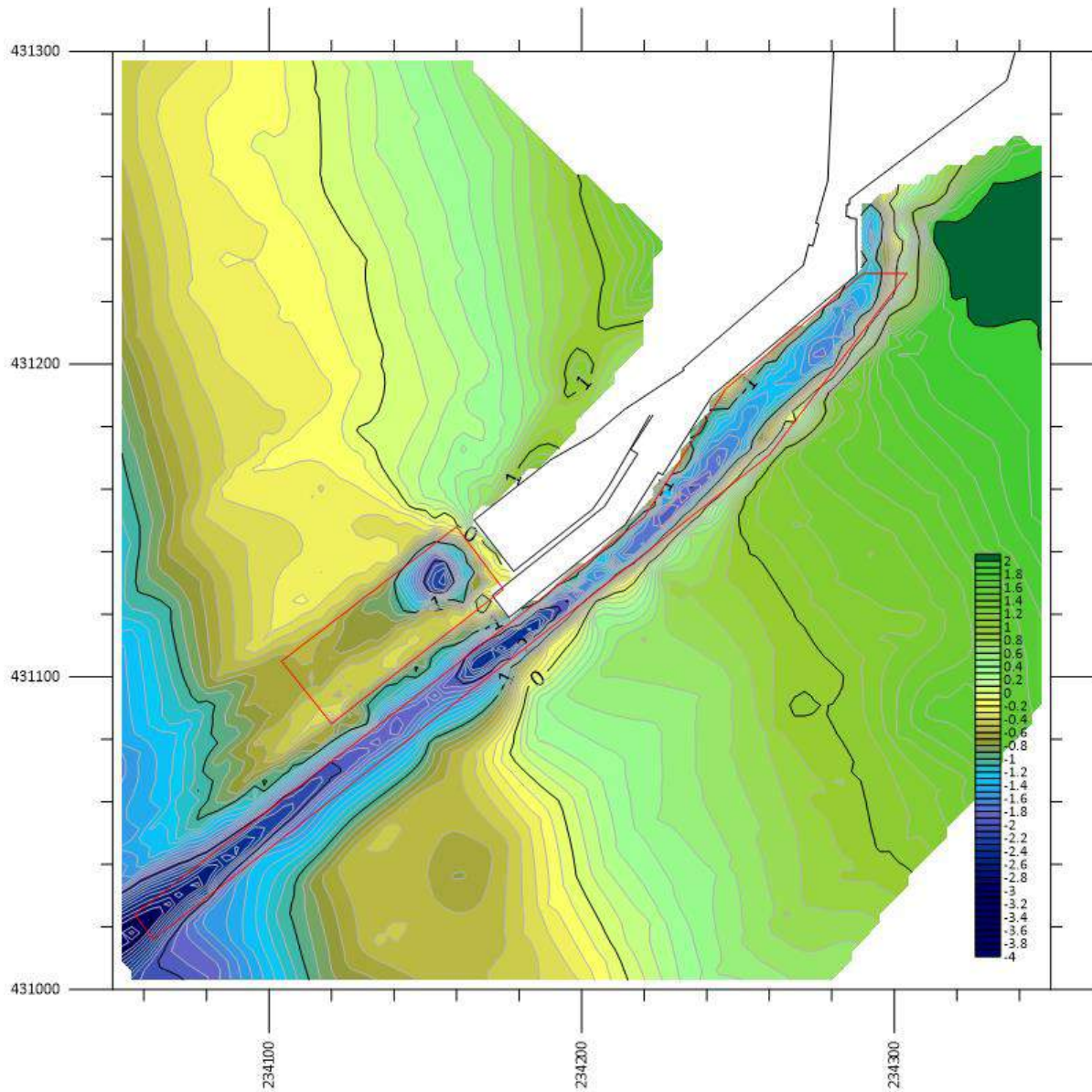


Figure 7. Pier area as of 17th July 2020

A new area of deposition shows to the north east of the diagram (dark green). It was observed that in very shallow water the propeller wash from the dredger caused substantial movement of sediment. It is believed that the material deposited in this area was because of this action. This area is inside the spoil perimeter.

The south channel is more clearly seen in a differential profile from the lifeboat berth to the -2m contour, c. 312m as represented by the green line in Figure 8.

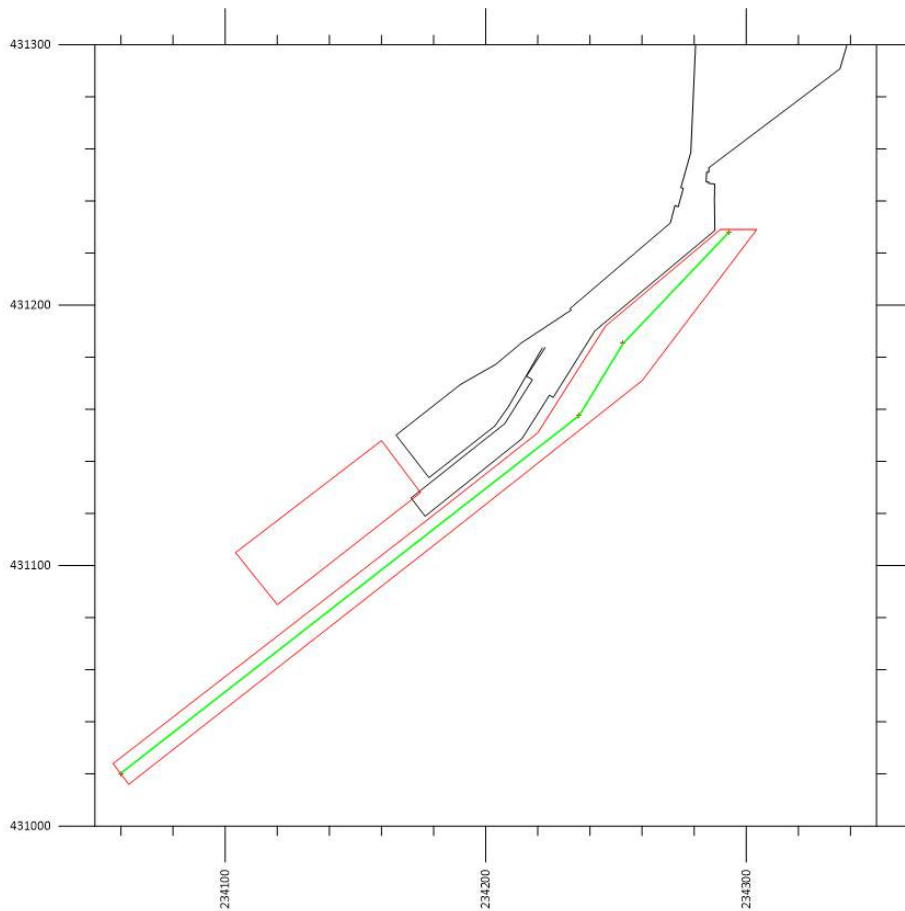


Figure 8. Position of differential profile between 14th June and 17th July 2020

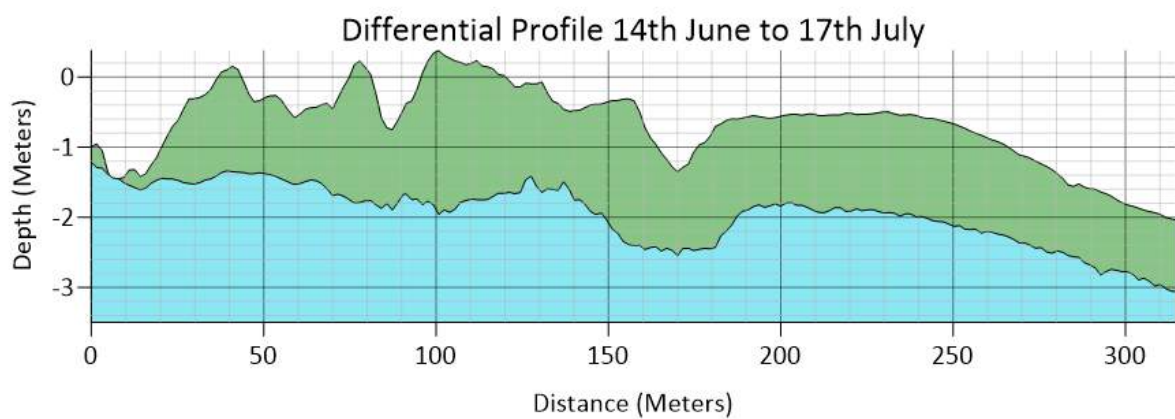


Figure 9. Differential profile between 14th June and 17th July 2020

In Figure 9, the profile from 17th July shows in light blue, 14th June shows in darker green. The east (left) end of the profile is at the berth. A volume calculation showed a differential of **4,169 M³**.

The slip channel is more clearly seen in a profile through the dredge box, as represented by the green line in Figure 10.

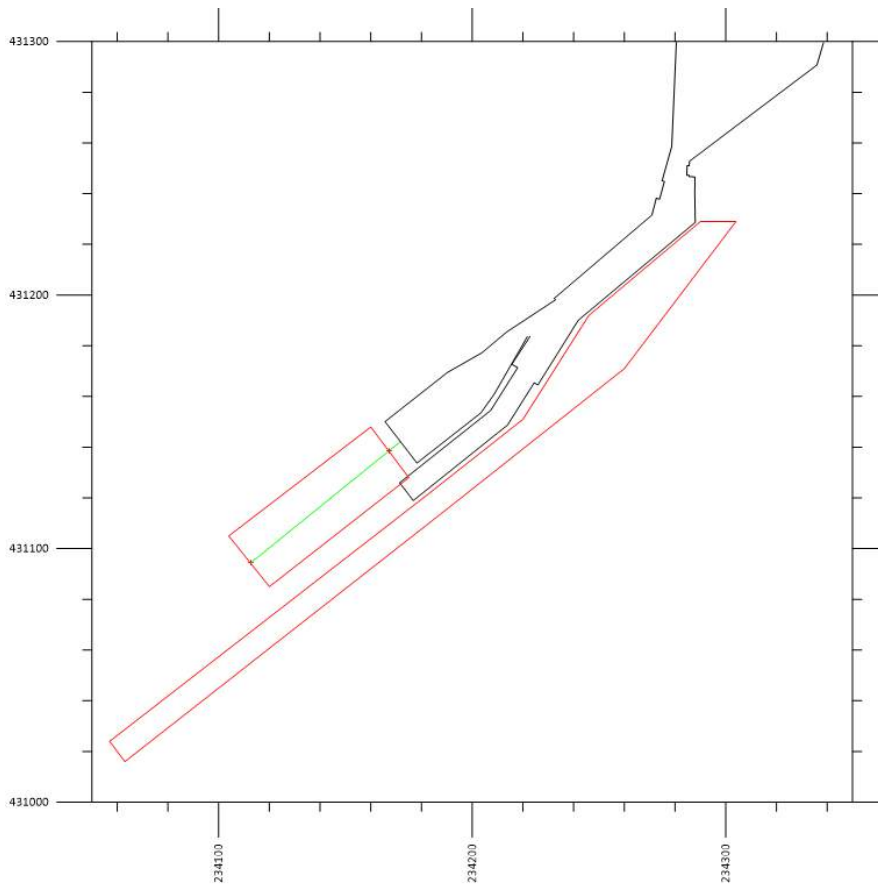


Figure 10. Position of final profile at slip 17th July 2020

As shown in Figure 11, the slip channel is very deep immediately adjacent to the slip. The rest of the channel is better than -0.5m. Further north of the centre line, the channel is better than 0.6m.

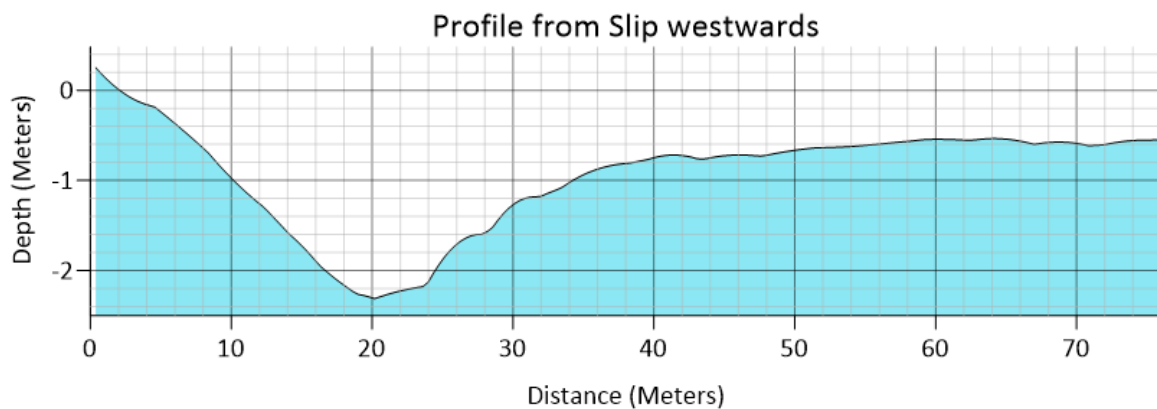


Figure 11. Final profile at slip 17th July 2020

A volume calculation shows a differential of **549M³**.

Spoil area report

Buncrana Pier Area Dredge Campaign

June-July 2020

Contents

Summary	2
Remit.....	2
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Concurrent tidal height measurement	4
Post-dredge survey 14th June 2020.....	5
Concurrent tidal height measurement	6
Morphology.....	7

Summary

This report details the morphology of the spoil area, summarising surveys before and after the dredge campaign 2020.

Tidal compensation was to Buncrana Pier Tide Gauge, which is:

- +.4m to local chart datum
- +54.73m to ETRS89
- -2.5m to OD MSL Malin Head

Diagrams are to Irish Grid as specified by the client.

Remit

Schedule C of EPA Dumping at Sea permit S0011-03 requires *“high resolution bathymetric survey and concur tidal height measurement”*, to be performed *“for the extent of the dumping site”, “within one week prior to the commencement of each campaign”* and *“within one week following completion of each campaign”*.

The dredging campaign commenced 17th June 2020 and was completed on 14th July. The pre-dredge survey occurred on 14th June 2020 and the post dredge survey on 17th July 2020, meeting the requirements of schedule C.

Pre-dredge survey 14th June 2020

Figure 1 shows a contour chart of the spoil area as surveyed on 14th June 2020. All levels are with respect to Buncrana Pier Tide Gauge, which has been benchmarked at MSL Malin -2500mm.

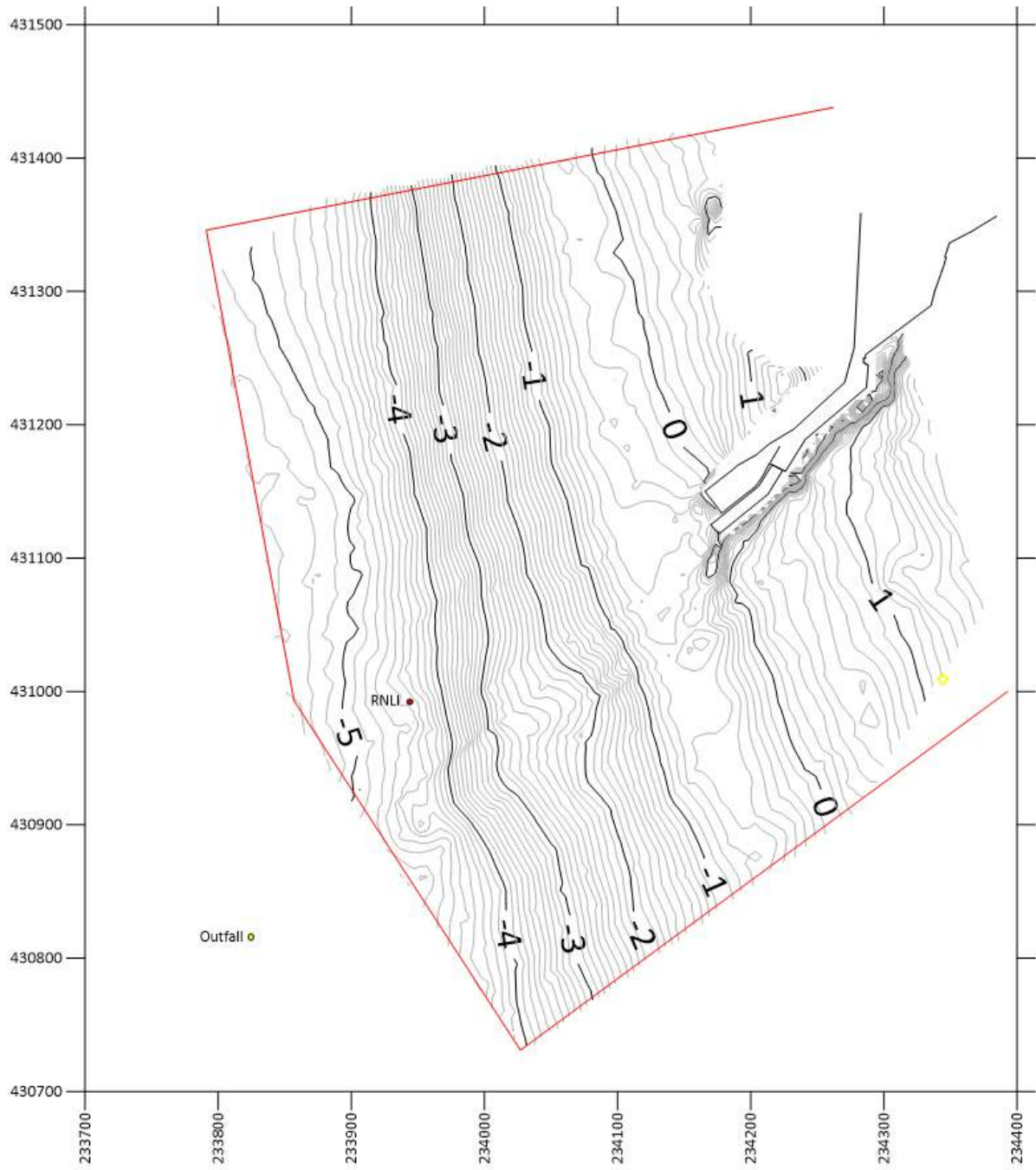


Figure 1. Spoil area 14th June 2020

Concurrent tidal height measurement

Tidal heights were measured adjacent to the pier using an RTK GPS height measurement and are shown in Figure 2. A one-minute moving average was derived to eliminate waves and short-term disturbances.

Measurements were cross-checked with a static depth sounder and closely agree with predicted tides, see table 1. Survey was performed during neap tides and all times are GMT.

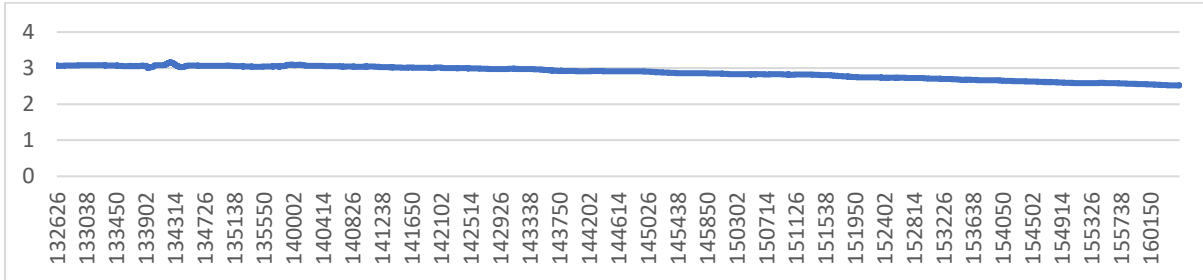


Figure 2. Tide graph for the duration of survey 14th June 2020

Time (GMT)	Tide (CD)
00:08	3.2
06:57	1.6
13:22	3.1
19:32	2.0

Table 1. Tides for 14th June 2020 to Chart Datum as per UK Admiralty

Post-dredge survey 17th July 2020

Figure 3 shows a contour chart of the spoil area as surveyed on 17th July 2020. All levels are with respect to Buncrana Pier Tide Gauge, which has been benchmarked at MSL Malin -2500mm.

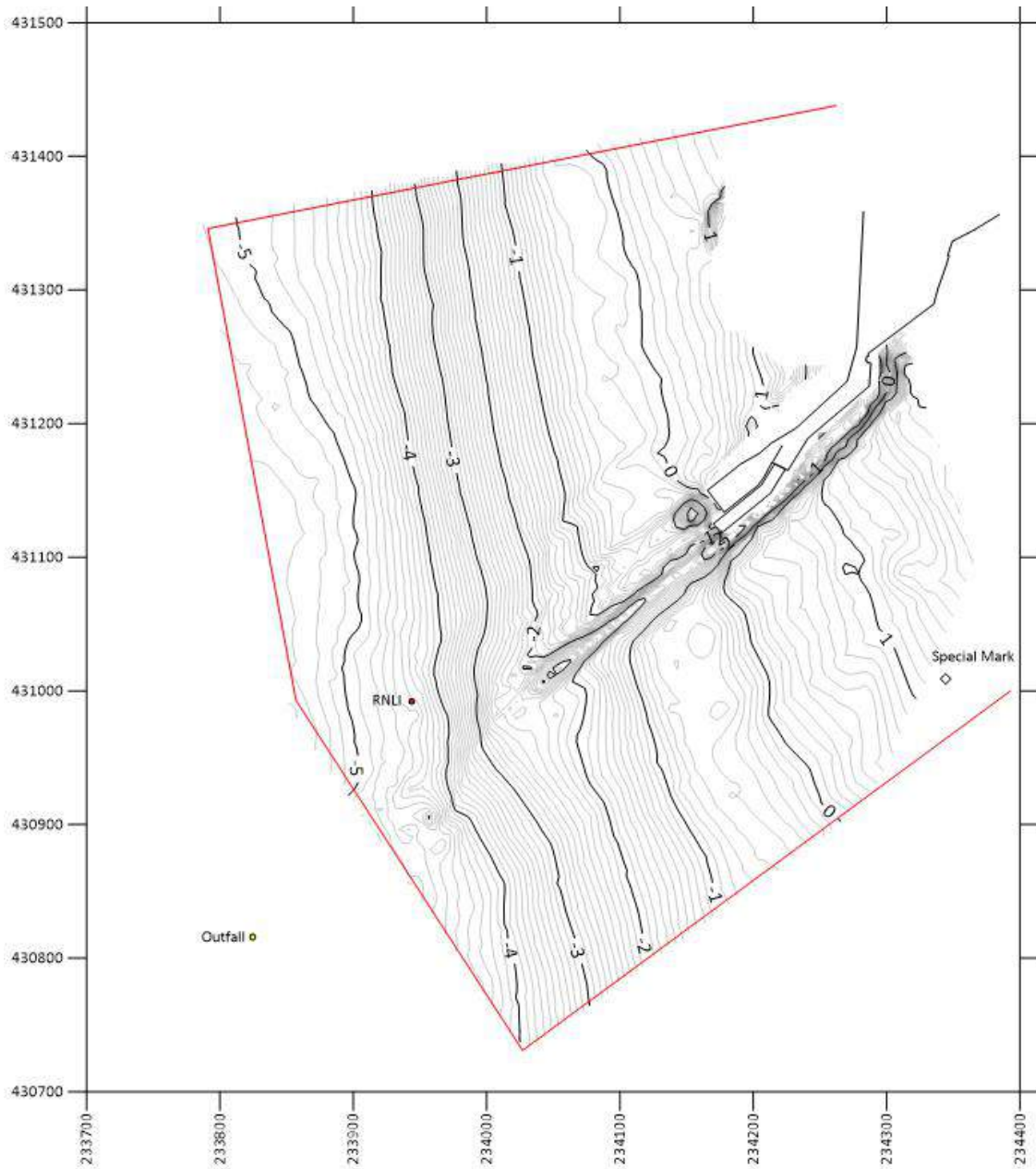


Figure 3. Spoil area 17th July 2020

Concurrent tidal height measurement

Tidal heights were measured adjacent to the pier using an RTK GPS height measurement and are shown in Figure 4. A one-minute moving average was derived to eliminate waves and short-term disturbances.

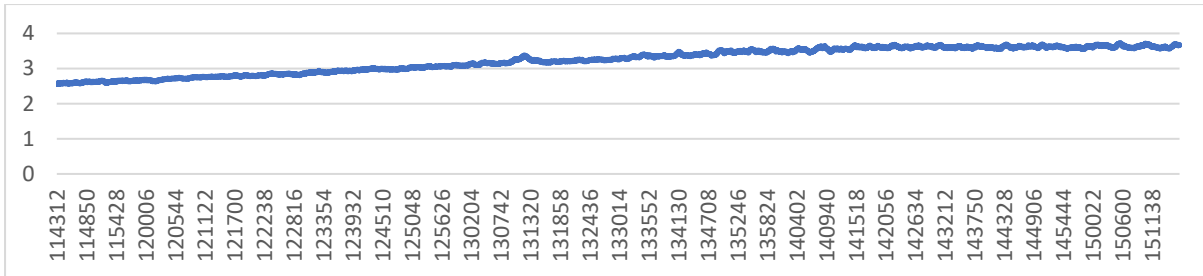


Figure 4. Tide graph for the duration of survey 17th July 2020

Measurements were cross-checked with a static depth sounder and generally agree with predicted tides, see table 2. High water exceeded predicted values; this was cross checked with the Marine Institute tide gauge at Malin which showed similar values. The survey was performed during neap tides and all times are GMT.

Time (GMT)	Tide (CD)
03:47	3.4
09:50	1.7
16:09	3.6
22:20	1.5

Table 2. Tides for 17th July 2020 to Chart Datum as per UK Admiralty

Morphology

Figure 5 is a delta plot showing the differences in measured depth from the pre-dredge survey of June 14th, 2020 to the post-dredge survey of July 17th, 2020.

Deposition to the north of the slipway has been observed to be due to propeller wash from the ferry holding station. Deposition to the east and south of the lifeboat berth has been observed to be due to propeller wash from the dredger.

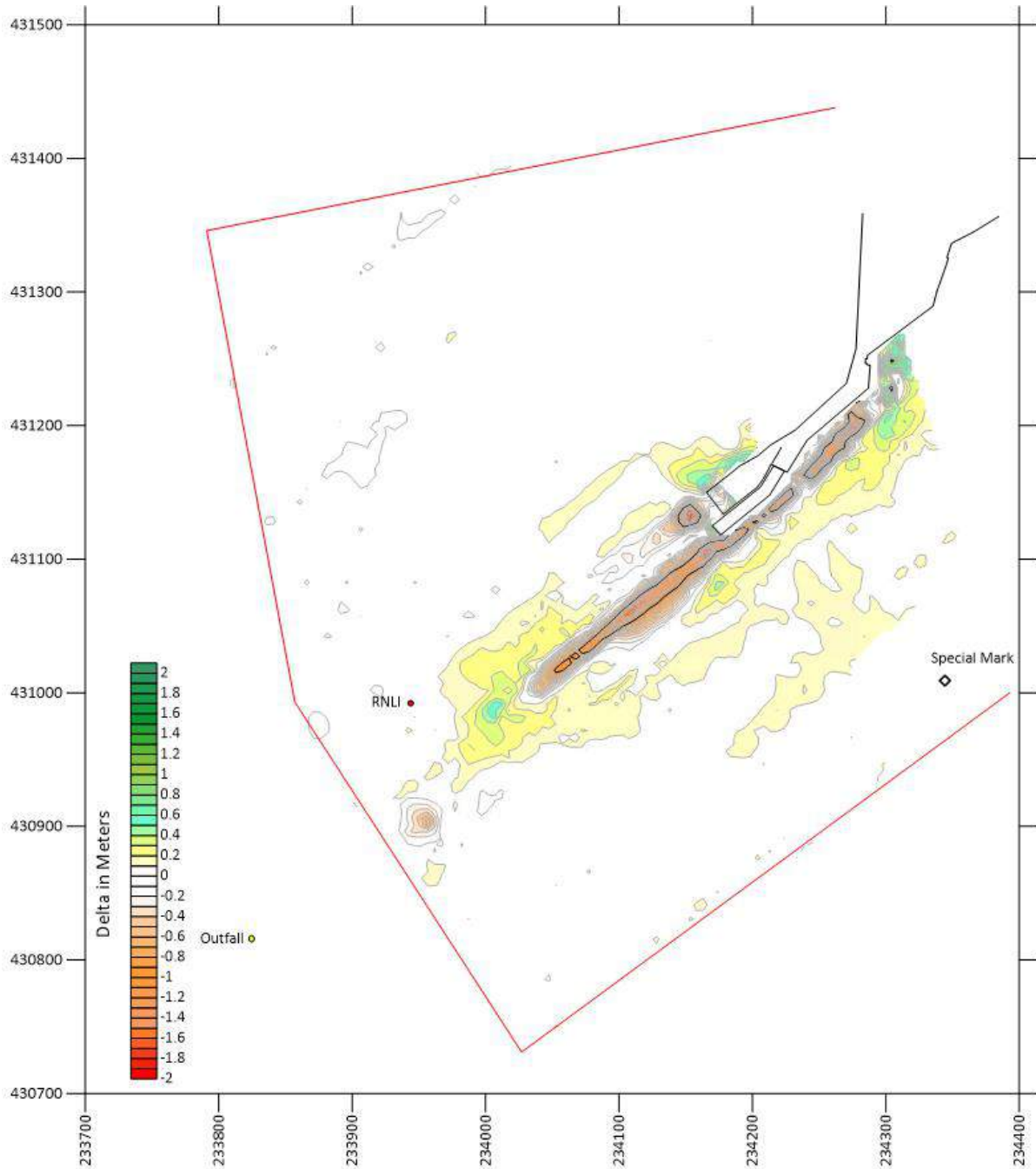


Figure 5. Delta plot 14th June to 17th July 2020

Appendix 5

Marine Mammal Monitoring Report



Inishowen Technology Limited

Umricam,
Buncrana,
County Donegal,
Republic of Ireland.

VAT number: IE6591695S

*Inishowen Technology Limited is incorporated in the Republic of Ireland.
Company Number 191695*

Telephone : +353 74 9363104
E-Mail: sales@iotech.ie

Executive Summary

Donegal County Council (the client) requested a Marine Mammal Observer for the dredging campaign at Buncrana Pier on the eastern shore of Lough Swilly at 55 7.57 N / 7.27.91 W in compliance with EPA Dumping at Sea Permit S0011-03.

Over the course of 18 days (from 17th to 27th June and from 30th June to 14th July) MMOs were generally available to carry out observations, to meet the operational requirements as specified in [1] section 4.2 and the terms of [3].

The dredging vessel was Otter Bank, MMSI 235000616, operating a towed plough.

Observations were carried out from the pier deck (6.5m above chart datum, 4m above MSL Malin) as it offered the best all round view, and occasionally from the dredger. Full PPE was available to MMOs and life jackets were generally worn during observations.

During this period, sightings were made of common seals (*Phoca vitulina*) on 9 separate days.

A group of c. 6 Bottlenose Dolphins was observed c. 400m off the pier on 7th July 2020.

One detection was made inside the exclusion zone; however, the dredger did not operate that morning (26th June).

One detection was made inside the exclusion zone during operations (1st July). There is no obligation to stop, however on being informed, the operator briefly held position until the animal was confirmed clear of the exclusion zone.

The Lough Swilly ferry was also operational in the dredging area from 1000-1900 IST each day of operations in June and from 0900-1900 IST each day of operations in July.

Communications with the dredging operator were by marine VHF radio.

Compliance

The general requirements for mitigation of risk to marine mammals are as set out in the Irish guidelines [1] section 4.3.1. Dredging mitigation is not specifically covered in JNCC guidelines [2]. Conditions are set by the EPA permit for this operation [3] and specify a 100m mitigation zone. The Natura Impact Assessment [4] and AA [5] were reviewed as was the Assessment of Risk to Marine Mammals [6].

Other relevant legislation includes:

- International Convention for the Regulation of Whaling (1931)
- Whale Fisheries Act in 1937
- Wildlife Act, 1976, amended 2000, 2005, 2010 and 2012
- Dumping at Sea Act 1996 to 2009

Lough Swilly is designated as a Special Area of Conservation and Special Protection Area under the EU Habitats Directive 92/43/EC and the Birds Directive 2009/147/EC.

Reporting

Reports have been provided to meet the requirements of [1] appendix 7.

Date and location(s) of the plan/project	17 th June to 27 th June 2020 30 th June to 14 th July 2020 Buncrana Pier
Name, address, and qualifications of the MMO(s) on the Platform/Vessel	John O’Raw MSc, Niamh O’Raw, Eadaoin O’Raw Members IWDG JNCC MMO IWDG MMO VHF and SRC license (JOR only)
Latitudes, Longitudes or Grid references for the area(s) of operations monitored by the MMO.	Observer at 55 7.57 N / 7.27.91 W All operations took place within 150m of this location.
Details of the observation platform used for marine mammal monitoring, including its height above sea level.	Buncrana Pier, deck is 6.5m above chart datum (CD), 4m above MSL Malin. Eye height c. 8m above CD.
Details of all sound-producing operations/activities undertaken during the period of works.	Dredging took place each day commencing at 0700 (0600 GMT) or tide >2m above CD. Operations ceased at 2000 (1900 GMT) each evening or when tide fell to <2m above CD.
Details of monitoring watches conducted for marine mammals.	Watches began a minimum of 30 minutes before start of operations. An MMO was available at all times during operations.

<p>Details of all marine mammal sightings recorded during monitoring watches.</p>	<p>There were 9 sightings of common seals.</p> <p>One sighting on 18th June 2020. One sighting on 20th June 2020. One sighting on 24th June 2020. One sighting on 26th June 2020. One sighting on 27th June 2020. One sighting on 30th June 2020. One sighting on 1st July 2020. One sighting on 4th July 2020 One sighting on 7th July 2020</p> <p>There was 1 sighting of bottlenose dolphins on 7th July 2020.</p> <p>See attached deck sheets (10 off) for details.</p>
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References

[1] Guidance to Manage the Risk to Marine Mammals from Manmade Sound Sources in Irish Waters, Dept of Arts, Heritage and the Gaeltacht, January 2014.

[2] JNCC guidelines for minimising the risk of injury to marine mammals from geophysical surveys, August 2017.

[3] EPA Dumping at Sea Permit S0011-03

[4] Natura Impact Statement (NIS), Malachy Walsh and Partners, 9/2/18

[5] Screening for Appropriate Assessment, Malachy Walsh and Partners, 9/2/18

[6] Assessment of Risk to Marine Mammals from Proposed Dredging at Bunrana Co. Donegal, Malachy Walsh and Partners, 15/12/17

MARINE MAMMAL RECORDING FORM - COVER PAGE

Regulatory reference number EPA S0011-03	Country Ireland	Ship/ platform name Otterbank/Buncrana Pier
Client Donegal County Council	Contractor IOTECH	Survey type <input type="checkbox"/> site <input type="checkbox"/> 4C <input type="checkbox"/> 2D <input type="checkbox"/> VSP <input type="checkbox"/> 3D <input type="checkbox"/> WAZ <input type="checkbox"/> 4D <input checked="" type="checkbox"/> other <input type="checkbox"/> OBC
Start date 17 th June 2020	End date 14th July 2020	

Visual monitoring equipment used Binoculars	Magnification of optical equipment 5 x 70	Height of eye (metres) 3 - 6.5	How was distance of animals estimated? <input type="checkbox"/> by eye <input type="checkbox"/> with laser rangefinder <input type="checkbox"/> with rangefinder stick/ calipers <input checked="" type="checkbox"/> with reticle binoculars <input checked="" type="checkbox"/> by relating to object at known distance <input type="checkbox"/> other
Number of dedicated MMOs 2		Training of MMOs <input checked="" type="checkbox"/> JNCC approved MMO induction course for UK waters <input type="checkbox"/> PSO training course for the Gulf of Mexico <input checked="" type="checkbox"/> MMO training course for Irish waters <input type="checkbox"/> other <input type="checkbox"/> none	

Was PAM used? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	Number of PAM operators 0
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DATA FORM FOR COASTAL/MARINE WORKS - RECORD OF OPERATION/ACTIVITY

Platform name: Buncrana/Otterbank Platform type: Pier/Boat Client: Donegal Co. Co. Contractor: IOTECH MMO: John O'Raw, Niamh O'Raw

Type of operation or activity Dredging, Drilling, Pile driving, Blasting, other	Date (dd/mmm/yy)	Sound-producing operation or activity			Pre-Start Monitoring effort for marine mammals					Action necessary		
		Time when ramp-up/soft-start began [if any] (GMT/UTC)	Time when equipment reached full power (GMT/UTC)	Time when equipment stopped or shut down (GMT/UTC)	Who carried out the monitoring for marine mammals? (Job Title)	Start time of monitoring for marine mammals [Pre-start-up] (GMT/UTC)	End time of monitoring for marine mammals (GMT/UTC)	Reason for non-detection of marine mammals? (e.g. sea state, swell, glare, poor light, fog, rain, etc.)	Were hydro-phones used? (Yes/No)	Were marine mammals present in the 30/60 mins before start-up? (Yes/No)	If Yes, give time when marine mammals were last seen (GMT/UTC)	If marine mammals were present, what action was taken? (e.g., delay ramp-up/soft start, delay full start-up)
Dredging	17JUN20	N/A	1114	1842	NOR/EOR	1030	1845	None	No	No	N/A	N/A
Dredging	18JUN20	N/A	0622	0828	NOR	0530	0828	N/A	No	Yes	0700	None (outside exclusion zone)
Dredging	18JUN20	N/A	1215	1800	NOR/EOR/JOR	1145	1800	None	No	No	N/A	N/A
Dredging	19JUN20	N/A	0624	0823	NOR/JOR	0530	0823	None	No	No	N/A	N/A
Dredging	19JUN20	N/A	1325	1834	NOR/EOR/JOR	1225	1834	None	No	No	N/A	N/A
Dredging	20JUN20	N/A	0628	0910	NOR	0530	0910	N/A	No	No	0923	None
Dredging	20JUN20	N/A	1340	1456	JOR	1300	1456	None	No	No	No	N/A
Dredging	22JUN20	N/A	Did not start		NOR	0532	0830	None	No	No	No	N/A
Dredging	22JUN20	N/A	1521	1826	NOR	1436	1827	None	No	No	No	N/A
Dredging	23JUN20	N/A	0630	1040	NOR	0531	1040	None	No	No	No	N/A
Dredging	23JUN20	N/A	1600	1844	NOR/JOR	1527	1844	None	No	No	No	N/A
Dredging	24JUN20	N/A	0634	1128	NOR/JOR	0528	1128	None	No	No	No	N/A
Dredging	24JUN20	N/A	1633	1850	NOR	1536	1850	N/A	No	Yes	1703	None
Dredging	25JUN20	N/A	0645	1216	NOR/JOR	0535	1216	None	No	No	No	N/A
Dredging	25JUN20	N/A	1712	1806	NOR	1628	1806	None	No	No	No	N/A
Dredging	26JUN20	N/A	Did not start		NOR	0603	0755	N/A	No	No	0850	None
Dredging	26JUN20	N/A	1047	1344	NOR/JOR	0938	1344	None	No	No	No	N/A


DATA FORM FOR COASTAL/MARINE WORKS - RECORD OF OPERATION/ACTIVITY

Platform name: Buncrana/Otterbank Platform type: Pier/Boat Client: Donegal Co. Co. Contractor: IOTECH MMO: John O'Raw, Niamh O'Raw

Type of operation or activity	Date	Sound-producing operation or activity			Pre-Start Monitoring effort for marine mammals					Action necessary		
		Time when ramp-up/soft-start began [if any]	Time when equipment reached full power	Time when equipment stopped or shut down	Who carried out the monitoring for marine mammals?	Start time of monitoring for marine mammals [Pre-start-up]	End time of monitoring for marine mammals	Reason for non-detection of marine mammals?	Were hydro-phones used?	Were marine mammals present in the 30/60 mins before start-up?	If Yes, give time when marine mammals were last seen	If marine mammals were present, what action was taken?
Dredging, Drilling, Pile driving, Blasting, other	(dd/mmm/yy)	(GMT/UTC)	(GMT/UTC)	(GMT/UTC)	(Job Title)	(GMT/UTC)	(GMT/UTC)	(e.g. sea state, swell, glare, poor light, fog, rain, etc.)	(Yes/No)	(Yes/No)	(GMT/UTC)	(e.g., delay ramp-up/soft start, delay full start-up)
Dredging	30JUN20	N/A	1020	1802	JOR/NOR	0930	1802	None	No	No	N/A	N/A
Dredging	1JUL20	N/A	1105	1838	NOR/EOR/JOR	1035	1838	None	No	No	1853	None
Dredging	2JUL20	N/A	0617	0720	NOR/JOR	0534	0720	None	No	No	N/A	N/A
Dredging	2JUL20	N/A	1244	1846	NOR/JOR	1130	1846	None	No	No	N/A	N/A
Dredging	3JUL20	N/A	0636	0835	NOR/JOR	0535	0835	None	No	No	N/A	N/A
Dredging	3JUL20	N/A	1320	1820	NOR/JOR	1234	1820	None	No	No	N/A	N/A
Dredging	4JUL20	N/A	0620	0910	NOR/JOR	0530	0910	None	No	No	N/A	N/A
Dredging	4JUL20	N/A	1403	1633	NOR/JOR	1303	1633	N/A	No	No	1552	None
Dredging	6JUL20	N/A	Did not start		JOR/NOR	0527	0600	None	No	No	N/A	N/A
Dredging	6JUL20	N/A	Did not start		NOR/JOR	1433	1530	None	No	No	N/A	N/A
Dredging	7JUL20	N/A	0619	1106	NOR/JOR	0534	1106	None	No	No	N/A	N/A
Dredging	7JUL20	N/A	1548	1850	NOR/JOR	1518	1850	N/A	No	No	1940	None
Dredging	8JUL20	N/A	0624	1140	NOR/JOR/EOR	0535	1140	None	No	No	N/A	N/A
Dredging	8JUL20	N/A	1626	1843	NOR/JOR	1555	1843	None	No	No	N/A	N/A
Dredging	9JUL20	N/A	0626	1202	NOR/JOR	0532	1202	None	No	No	N/A	N/A
Dredging	9JUL20	N/A	1717	1846	NOR.JOR	1620	1846	None	No	No	N/A	N/A
Dredging	10JUL20	N/A	0631	1055	NOR/JOR	0532	1055	None	No	No	N/A	N/A
Dredging	10JUL20	N/A	1200	1250	JOR/NOR	1123	1250	None	No	No	N/A	N/A
Dredging	11JUL20	N/A	0636	1353	NOR/JOR	0557	1353	None	No	no	N/A	N/A
Dredging	13JUL20	N/A	0741	1625	NOR/JOR	0630	1625	None	no	no	N/A	N/A


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 18JUN20	Time (Local) 0700	Time (GMT/UTC) 0600		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck			Observer's name Niamh O'Raw			
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Common seal			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Common seal				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour 0700 surfaced south east of pier. Did not reappear				Direction of travel of animals (compass points or degrees)		
Activity of platform/vessel Dredging, seal outside exclusion zone	Operation/activity under way (when animals first seen) <i>Pre-Start watch</i>			Closest distance of animals from platform/vessel (metres) (Record even if not operating) 300 m		


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 20JUN20	Time (Local) 0923	Time (GMT/UTC) 0823		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck			Observer's name Niamh O'Raw			
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Common seal			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Common seal				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour 0823 surfaced south of pier. Stayed in area until end of operation				Direction of travel of animals (compass points or degrees)		
Activity of platform/vessel Dredging, seal outside exclusion zone	Operation/activity under way (when animals first seen) yes		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 300 m			


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 24JUN20	Time (Local) 1703	Time (GMT/UTC) 1603		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck			Observer's name Niamh O'Raw			
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Common seal			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Common seal				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour surfaced south east of pier. Did not reappear				Direction of travel of animals (compass points or degrees)		
Activity of platform/vessel Dredging, seal outside exclusion zone	Operation/activity under way (when animals first seen) yes		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 300 m			


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 26JUN20	Time (Local) 0750	Time (GMT/UTC) 0650		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck			Observer's name Niamh O'Raw			
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Common seal			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Common seal				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour 0650 surfaced 15 m from pier. 0750 still in area.				Direction of travel of animals (compass points or degrees)		
Activity of platform/vessel Dredging, seal outside exclusion zone	Operation/activity under way (when animals first seen) yes		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 15 m			


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 27JUN20	Time (Local) 1239	Time (GMT/UTC) 1139		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck			Observer's name Niamh O'Raw			
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Common seal			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Common seal				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Surfaced north of pier. Did not reappear				Direction of travel of animals (compass points or degrees)		
Activity of platform/vessel Dredging, seal outside exclusion zone	Operation/activity under way (when animals first seen) yes		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 300 m			


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 30JUN20	Time (Local) 1322	Time (GMT/UTC) 1222		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck			Observer's name Niamh O'Raw			
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Common seal			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Common seal				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Surfaced south of pier near rocks. Did not reappear				Direction of travel of animals (compass points or degrees)		
Activity of platform/vessel Dredging, seal outside exclusion zone	Operation/activity under way (when animals first seen) yes		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 300 m			


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 01JUL20	Time (Local) 1515	Time (GMT/UTC) 1415		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck				Observer's name Niamh O'Raw		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Common seal			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Common seal				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour 1415 surfaced 70 m south of pier. Sighted in area several times 1753 surfaced north of pier. Did not reappear				Direction of travel of animals (compass points or degrees)		
Activity of platform/vessel Dredging, seal outside exclusion zone	Operation/activity under way (when animals first seen) yes		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 70 m			


DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 04JUL20	Time (Local) 1552	Time (GMT/UTC) 1452		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck			Observer's name Niamh O'Raw			
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Common seal			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1		No. of adults 1	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Common seal				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour Surfaced southeast of pier. Did not reappear				Direction of travel of animals (compass points or degrees)		
Activity of platform/vessel Dredging, seal outside exclusion zone	Operation/activity under way (when animals first seen) yes		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 400 m			

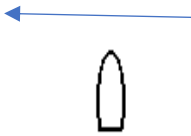
DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 07JUL20	Time (Local) 1828	Time (GMT/UTC) 1728		Sighting Record no. 1		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck				Observer's name Niamh O'Raw		
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Common seal dolphins			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 1 (seal)		No. of adults 1	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 1		Minimum number (estimated total) 1				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Common seal				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) 		
Behaviour 1728 seal surfaces south of pier near rocks. Last sighting at 1755				Direction of travel of animals (compass points or degrees) south		
Activity of platform/vessel Dredging, seal outside exclusion zone	Operation/activity under way (when animals first seen) yes		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 200 m			

DATA FORM FOR COASTAL/MARINE WORKS - MARINE MAMMAL SIGHTING RECORDS

Options in italics should be circled or underlined as appropriate. Complete 1 record per sheet.

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mm/yyyy) 07JUL20	Time (Local) 1840	Time (GMT/UTC) 1740		Sighting Record no. 2		
How did this sighting occur? (please tick)						
While you were keeping a continuous watch for marine mammals					_Y_	
Spotted incidentally by you or someone else					___	
Other (please specify)					___	
Details:.....						
Platform type & name (e.g. ship, rig, headland) Pier deck			Observer's name Niamh O'Raw			
Observer's position (Latitude/Longitude or 6-figure Grid reference) 55.126141 N 7.465056 W				Water depth (metres) (if available)		
Species recorded Dolphins			Certainty of identification (underline) <i>Definite / probable / possible</i>			
Total number of animals (best estimate) 6 (dolphins)		No. of adults 6	No. of juveniles 0	No. of calves 0		
Maximum number (estimated total) 6		Minimum number (estimated total) 5				
Description (include features such as overall size; shape of head; position, shape and size of dorsal fin; colour and patterning; height, direction, shape of blow) Large dolphins (bottlenose)				Photograph or video taken No		
				Direction of travel of animals in relation to platform/vessel (draw arrow) <div style="text-align: center;">  </div>		
Behaviour 1840 dolphins jumping out of water in middle of lough between Buncrana and Macamish Heading south.				Direction of travel of animals (compass points or degrees) south		
Activity of platform/vessel Dredging, dolphins outside exclusion zone	Operation/activity under way (when animals first seen) yes		Closest distance of animals from platform/vessel (metres) (Record even if not operating) 200 m			