

Buncrana Harbour
Dumping at Sea Permit S0011-03
Annual Environmental Report 2019



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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 Permits allow for maintenance dredging at Buncrana Harbour, Co. Donegal of up to 8,000 tonnes of material each year for eight years up to a maximum of 64,000 tonnes, and 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**

Malachy Walsh and Partners (MWP) prepared and managed the Dumping at Sea Permit application on behalf of Donegal County Council and have also prepared this 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 main berths. The material to be dredged consists of clean sediment recently deposited in the berthing area on the south face of Buncrana Pier and the approach channel to Buncrana Harbour. The method of dredging and disposal entails 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 10 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 is approximately 1.45 ha and consists of the approach channel to the pier and slipway, and the main berths at the pier. The dumping area is approximately 27.45ha and comprises 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 approximately 160m from Buncrana Harbour

3 REGISTER/LOG OF DREDGING/LOADING & DUMPING ACTIVITIES

There were two dredging campaigns undertaken in 2019. The first took place over 10 days from the 04th June to the 13th June, inclusive, and removed 2200 tonnes of material. The second campaign occurred from the 18th June to the 28th June, inclusive, and on the 2nd and 3rd of July, totalling 13 days and removing 2400 tonnes of material – refer to **Table 1** below for breakdown of daily rates of material dredged.

The vessel used was the Lough Swilly Marine Dredging Vessel named the *Trojan* (MMSI 250001394), 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 160m from the end of the pier. In accordance with Condition 2.2, dumping was undertaken during daytime hours to protect otter (*Lutra lutra*).

Table 1: Daily quantities (tonnes) of material dredged

Dredging Campaign	Date	Total Quantity Removed (MT)
First Campaign	04/06/19 09:31hrs	160
	05/06/19	285
	06/06/19	295
	07/06/19	240
	08/06/19	220
	09/06/19	205
	10/06/19	200
	11/06/19	195
	12/06/18	200
	13/06/19	200
Second Campaign	18/06/19	200
	19/06/19	200
	20/06/19	200
	21/06/19	200
	22/06/19	200
	23/06/19	200
	24/06/19	100
	25/06/19	100
	26/06/19	200
	27/06/19	200
	28/06/19	200
	02/07/19	200
	03/07/19 20:00hrs	200
	TOTAL	4600

The dumping logs are attached in **Appendix 1**. The logs include the vessel departure location, and timings and volumes of loads dumped.

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 The Emergency Response Procedure is detailed in **Section 10**.

A copy of a Donegal County Council Incident Reporting Form is 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 2019 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”*.

Marine Mammal Observers (MMO) were appointed by Donegal County Council for the duration of the works (see **Table 2**). A mitigation zone of 100m from the dredging vessel was in place prior to starting each dredge and observations began a minimum of thirty minutes before operations began. Copies of the monitoring reports are included in **Appendix 5**.

Table 2: Dates of monitoring effort by MMO for 2019 dredging campaigns

Marine Mammal Observer(s)	Dates Monitored	Dredging Campaign
Pat O'Sullivan	4 th , 5 th , 6 th , 7 th , 8 th , 9 th & 10 th of June 2019	First Campaign
Shay Fennelly	11 th , 12 th & 13 th of June 2019	
John O'Raw and Niamh O'Raw	18 th , 19 th , 20 th , 21 st , 22 nd , 23 rd , 24 th , 25 th , 26 th , 27 th & 28 th of June, and 2 nd & 3 rd of July 2019	Second Campaign

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. In order to achieve this, employers shall:-

- Manage and conduct the work activities in a safe manner
- Manage and conduct the work activities so as 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 in order 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 in order to ensure the safety and health of all those who are engaged in the operation, there is also a duty upon each and 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 taken into account. 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 fire fighting 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 fire fighting services can tackle the blaze. The response of the marine mammal observer will be taken into account. 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 as a result 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. Once again the rock outcrops are well marked, the vessel itself is fitted with the latest sonar, telecommunication and computerised system to assist it 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

A number of alternative approaches to Disposal at Sea 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 gives each of use, less risk in terms of weather and availability and it is a proven method of dredging that has and is being used within Lough Swilly and at Buncrana Bay.

Maintaining consistent navigable depths at the pier is essential in order 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 and in particular 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/Dumping Logs

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	04/06/19	09:31	Innes Pier	B'crana Pier	09:40	Dump Site					Dump Site	POS
2	Sand/Silt	"		09:43	"	B'crana Pier	09:44	"					Dump Site	
3	Sand/Silt			09:51	"	B'crana Pier	09:56	"					Dump Site	
4	Sand/Silt			10:00		B'crana Pier	10:05						Dump Site	
5	Sand/Silt			10:10		B'crana Pier	10:14						Dump Site	
6	Sand/Silt	"		10:20		B'crana Pier	10:25						Dump Site	
7	Sand/Silt			10:30		B'crana Pier	10:38						Dump Site	
8	Sand/Silt			10:44		B'crana Pier	10:49						Dump Site	
9	Sand/Silt			10:55		B'crana Pier	11:06						Dump Site	
10	Sand/Silt			11:12		B'crana Pier	11:16						Dump Site	
11	Sand/Silt	"		04:07		B'crana Pier	04:12						Dump Site	
12	Sand/Silt			04:19		B'crana Pier	04:24						Dump Site	
13	Sand/Silt			04:38		B'crana Pier	04:40						Dump Site	
14	Sand/Silt			04:45		B'crana Pier	04:51						Dump Site	
15	Sand/Silt	"		05:01		B'crana Pier	05:05						Dump Site	
16	Sand/Silt			05:10		B'crana Pier	05:14						Dump Site	
17	Sand/Silt			05:19		B'crana Pier	05:24						Dump Site	
18	Sand/Silt			05:31		B'crana Pier	05:33						Dump Site	
19	Sand/Silt			05:38		B'crana Pier	05:42						Dump Site	
20	Sand/Silt	"		05:49		B'crana Pier	05:53						Dump Site	

Total: 100 MT

Cumulative Total: 100 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	4/06/19	05:56	outer pier	B'crana Pier	06:00	Dump Site					Dump Site	PO'Sullivan
2	Sand/Silt			06:05		B'crana Pier	06:09	MT					Dump Site	
3	Sand/Silt			06:18		B'crana Pier	06:22						Dump Site	
4	Sand/Silt	11		06:37	11	B'crana Pier	06:36	11					Dump Site	
5	Sand/Silt			06:41		B'crana Pier	06:46						Dump Site	
6	Sand/Silt			06:50		B'crana Pier	06:55						Dump Site	
7	Sand/Silt			06:59	11	B'crana Pier	07:06	11					Dump Site	
8	Sand/Silt	11		07:08		B'crana Pier	07:12						Dump Site	
9	Sand/Silt			07:17		B'crana Pier	07:20	11					Dump Site	
10	Sand/Silt			07:25	11	B'crana Pier	07:29						Dump Site	
11	Sand/Silt			07:37		B'crana Pier	07:39						Dump Site	
12	Sand/Silt	11		07:43		B'crana Pier	07:49						Dump Site	
13	Sand/Silt		5/06/19	07:18	inner pier	B'crana Pier	07:22	Dump Site					Dump Site	
14	Sand/Silt			07:27		B'crana Pier	07:32						Dump Site	
15	Sand/Silt	11		07:37		B'crana Pier	07:40						Dump Site	
16	Sand/Silt			07:44	11	B'crana Pier	07:48						Dump Site	
17	Sand/Silt	11		07:51		B'crana Pier	07:55						Dump Site	
18	Sand/Silt			08:01		B'crana Pier	08:03	11					Dump Site	
19	Sand/Silt	11		08:07	11	B'crana Pier	08:11						Dump Site	
20	Sand/Silt			08:15		B'crana Pier	08:19	11					Dump Site	

Total: 100 MT

Cumulative Total: 200 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	5/06/19	08:24	inner pier	B'crana Pier	08:27	Dump Site					Dump Site	PO'Sell
2	Sand/Silt			08:31		B'crana Pier	08:35						Dump Site	
3	Sand/Silt			08:39		B'crana Pier	08:42						Dump Site	
4	Sand/Silt			08:48		B'crana Pier	08:52						Dump Site	
5	Sand/Silt	11		08:54	11	B'crana Pier	09:02	11					Dump Site	
6	Sand/Silt			09:05		B'crana Pier	09:09						Dump Site	
7	Sand/Silt			09:12		B'crana Pier	09:16						Dump Site	
8	Sand/Silt			09:19		B'crana Pier	09:24						Dump Site	
9	Sand/Silt			09:31		B'crana Pier	09:34						Dump Site	
10	Sand/Silt			09:38		B'crana Pier	09:42						Dump Site	
11	Sand/Silt	11		09:46	11	B'crana Pier	09:50	11					Dump Site	
12	Sand/Silt			09:53		B'crana Pier	09:56						Dump Site	
13	Sand/Silt			10:01		B'crana Pier	10:06						Dump Site	
14	Sand/Silt			10:10		B'crana Pier	10:13						Dump Site	
15	Sand/Silt			10:17		B'crana Pier	10:20						Dump Site	
16	Sand/Silt	11		10:25	11	B'crana Pier	10:28	11					Dump Site	
17	Sand/Silt			10:32		B'crana Pier	10:37						Dump Site	
18	Sand/Silt			10:42		B'crana Pier	10:46						Dump Site	
19	Sand/Silt			10:49		B'crana Pier	10:54						Dump Site	
20	Sand/Silt	11		10:58	11	B'crana Pier	11:02	11					Dump Site	

Total: 100 MT

Cumulative Total: 300 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	5/06/19	11:07	Inner Pier	B'crana Pier	11:16	Dump Site					Dump Site	POS
2	Sand/Silt			11:14		B'crana Pier	11:18						Dump Site	
3	Sand/Silt			11:22		B'crana Pier	11:25						Dump Site	
4	Sand/Silt	"		11:29		B'crana Pier	11:34	"					Dump Site	
5	Sand/Silt			11:37		B'crana Pier	11:45						Dump Site	
6	Sand/Silt			4:46		B'crana Pier	4:47						Dump Site	
7	Sand/Silt			4:51		B'crana Pier	4:56						Dump Site	
8	Sand/Silt			5:01		B'crana Pier	5:05						Dump Site	
9	Sand/Silt			5:10		B'crana Pier	5:15						Dump Site	
10	Sand/Silt	"		5:19		B'crana Pier	5:25	"					Dump Site	
11	Sand/Silt			5:28		B'crana Pier	5:34						Dump Site	
12	Sand/Silt			5:37		B'crana Pier	5:43						Dump Site	
13	Sand/Silt			5:47		B'crana Pier	5:52						Dump Site	
14	Sand/Silt			5:56		B'crana Pier	6:00						Dump Site	
15	Sand/Silt	"		6:02		B'crana Pier	6:09	"					Dump Site	
16	Sand/Silt			6:14		B'crana Pier	6:18						Dump Site	
17	Sand/Silt			6:22		B'crana Pier	6:28						Dump Site	
18	Sand/Silt			6:31	Pier head	B'crana Pier	6:35	Dump Site					Dump Site	
19	Sand/Silt			6:34		B'crana Pier	6:40						Dump Site	
20	Sand/Silt	"		6:46		B'crana Pier	6:47	"					Dump Site	

Total: 100 MT

Cumulative Total: 400 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	5/06/19	6:49	Peak head	B'crana Pier	6:57	Dump site					Dump Site	PO Sella
2	Sand/Silt			6:56		B'crana Pier	7:00						Dump Site	
3	Sand/Silt	"		7:04	"	B'crana Pier	7:08	"					Dump Site	
4	Sand/Silt			7:13	"	B'crana Pier	7:17						Dump Site	
5	Sand/Silt			7:20	Slip	B'crana Pier	7:25						Dump Site	
6	Sand/Silt			7:29	"	B'crana Pier	7:32						Dump Site	
7	Sand/Silt			7:36	"	B'crana Pier	7:40						Dump Site	
8	Sand/Silt			7:43	"	B'crana Pier	7:50						Dump Site	
9	Sand/Silt	"		7:54	"	B'crana Pier	8:00	"					Dump Site	
10	Sand/Silt		6/06/19	7:09	innelper	B'crana Pier	7:13	Dump site					Dump Site	
11	Sand/Silt			7:17		B'crana Pier	7:23						Dump Site	
12	Sand/Silt			7:27		B'crana Pier	7:33						Dump Site	
13	Sand/Silt			7:37		B'crana Pier	7:47						Dump Site	
14	Sand/Silt	"		7:47	"	B'crana Pier	7:55	"					Dump Site	
15	Sand/Silt			7:59		B'crana Pier	8:05						Dump Site	
16	Sand/Silt			8:07		B'crana Pier	8:13						Dump Site	
17	Sand/Silt	"		8:21	"	B'crana Pier	8:23	"					Dump Site	
18	Sand/Silt			8:30		B'crana Pier	8:36						Dump Site	
19	Sand/Silt			8:39		B'crana Pier	8:48						Dump Site	
20	Sand/Silt	"		8:45	"	B'crana Pier	8:50	"					Dump Site	

Total: 100 MT

Cumulative Total: 500 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	6/6/19	8:53	innervation	B'crana Pier	8:56	Dump Site					Dump Site	PO Sullivan
2	Sand/Silt			9:01		B'crana Pier	9:00						Dump Site	
3	Sand/Silt			9:12		B'crana Pier	9:17						Dump Site	
4	Sand/Silt			9:19		B'crana Pier	9:24						Dump Site	
5	Sand/Silt	11		9:23		B'crana Pier	9:31	11					Dump Site	
6	Sand/Silt			9:34		B'crana Pier	9:38						Dump Site	
7	Sand/Silt			9:40		B'crana Pier	9:44						Dump Site	
8	Sand/Silt			9:48		B'crana Pier	9:52						Dump Site	
9	Sand/Silt			9:56		B'crana Pier	10:00						Dump Site	
10	Sand/Silt	11		10:03		B'crana Pier	10:10						Dump Site	
11	Sand/Silt			10:13		B'crana Pier	10:18	11					Dump Site	
12	Sand/Silt			10:23		B'crana Pier	10:28						Dump Site	
13	Sand/Silt			10:31		B'crana Pier	10:36						Dump Site	
14	Sand/Silt			10:40		B'crana Pier	10:50						Dump Site	
15	Sand/Silt	11		10:55		B'crana Pier	10:59	11					Dump Site	
16	Sand/Silt			11:03		B'crana Pier	11:09						Dump Site	
17	Sand/Silt			11:14		B'crana Pier	11:18						Dump Site	
18	Sand/Silt			11:21		B'crana Pier	11:27						Dump Site	
19	Sand/Silt			11:31		B'crana Pier	11:36						Dump Site	
20	Sand/Silt	11		11:40		B'crana Pier	11:45	11					Dump Site	

Total: 100 MT

Cumulative Total: 600 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	6-06-19	11:31	Inner Pier	B'crana Pier	Dump site	11:58					Dump Site	POSalt
2	Sand/Silt			12:00	Pier head	B'crana Pier		12:05					Dump Site	
3	Sand/Silt			12:09		B'crana Pier		12:14					Dump Site	
4	Sand/Silt			12:19		B'crana Pier		12:26					Dump Site	
5	Sand/Silt			12:30		B'crana Pier		12:36					Dump Site	
6	Sand/Silt			17:30	Inner Pier	B'crana Pier		17:36					Dump Site	
7	Sand/Silt			17:40		B'crana Pier		17:46					Dump Site	
8	Sand/Silt			17:50		B'crana Pier		17:56					Dump Site	
9	Sand/Silt			17:59		B'crana Pier		18:04					Dump Site	
10	Sand/Silt			18:07		B'crana Pier		18:13					Dump Site	
11	Sand/Silt			18:16		B'crana Pier		18:22					Dump Site	
12	Sand/Silt			18:24		B'crana Pier		18:30					Dump Site	
13	Sand/Silt			18:33		B'crana Pier		18:39					Dump Site	
14	Sand/Silt			18:42		B'crana Pier		18:48					Dump Site	
15	Sand/Silt			18:52		B'crana Pier		18:58					Dump Site	
16	Sand/Silt			19:02		B'crana Pier		19:10					Dump Site	
17	Sand/Silt			19:14	Pier head	B'crana Pier		19:18					Dump Site	
18	Sand/Silt			19:23		B'crana Pier		19:26					Dump Site	
19	Sand/Silt			19:30		B'crana Pier		19:35					Dump Site	
20	Sand/Silt			19:40		B'crana Pier		19:45					Dump Site	

Total: 100 MT

Cumulative Total: 700 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: _S0011-02_ Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	7-06-19	07:03	lower pier	B'crana Pier	07:10	Dumpsite					Dump Site	POS
2	Sand/Silt			07:14		B'crana Pier	07:20						Dump Site	
3	Sand/Silt			07:21		B'crana Pier	07:30						Dump Site	
4	Sand/Silt			07:33		B'crana Pier	07:38						Dump Site	
5	Sand/Silt			07:41		B'crana Pier	07:46						Dump Site	
6	Sand/Silt			07:50		B'crana Pier	07:55						Dump Site	
7	Sand/Silt			08:00		B'crana Pier	08:04						Dump Site	
8	Sand/Silt			08:07		B'crana Pier	08:12						Dump Site	
9	Sand/Silt			08:16		B'crana Pier	08:20						Dump Site	
10	Sand/Silt			08:24		B'crana Pier	08:28						Dump Site	
11	Sand/Silt			08:31	Slip	B'crana Pier	08:35						Dump Site	
12	Sand/Silt			08:38		B'crana Pier	08:42						Dump Site	
13	Sand/Silt			08:45		B'crana Pier	08:49						Dump Site	
14	Sand/Silt			08:52		B'crana Pier	08:56						Dump Site	
15	Sand/Silt			08:58		B'crana Pier	09:03						Dump Site	
16	Sand/Silt			09:06		B'crana Pier	09:11						Dump Site	
17	Sand/Silt			09:14		B'crana Pier	09:18						Dump Site	
18	Sand/Silt			09:21		B'crana Pier	09:25						Dump Site	
19	Sand/Silt			09:28		B'crana Pier	09:32						Dump Site	
20	Sand/Silt			09:36		B'crana Pier	09:40						Dump Site	

Total: 100 MT

Cumulative Total: 800 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-02 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	07-06-11	09:43	Slip	B'crana Pier	09:47	Dumpsite					Dump Site	PO Sall
2	Sand/Silt			09:50		B'crana Pier	09:55						Dump Site	
3	Sand/Silt			09:59		B'crana Pier	10:03						Dump Site	
4	Sand/Silt			10:06		B'crana Pier	10:10						Dump Site	
5	Sand/Silt			10:13		B'crana Pier	10:18						Dump Site	
6	Sand/Silt			10:22		B'crana Pier	10:26	"					Dump Site	
7	Sand/Silt			10:30		B'crana Pier	10:34						Dump Site	
8	Sand/Silt			10:37		B'crana Pier	10:42						Dump Site	
9	Sand/Silt			10:46		B'crana Pier	10:50						Dump Site	
10	Sand/Silt			10:54		B'crana Pier	10:59						Dump Site	
11	Sand/Silt			11:03		B'crana Pier	11:08						Dump Site	
12	Sand/Silt			11:13		B'crana Pier	11:18						Dump Site	
13	Sand/Silt			11:22		B'crana Pier	11:26	"					Dump Site	
14	Sand/Silt			11:30		B'crana Pier	11:35						Dump Site	
15	Sand/Silt			11:39		B'crana Pier	11:44						Dump Site	
16	Sand/Silt			11:48		B'crana Pier	11:53						Dump Site	
17	Sand/Silt			11:57		B'crana Pier	12:02						Dump Site	
18	Sand/Silt			12:06		B'crana Pier	12:14	"					Dump Site	
19	Sand/Silt			12:16		B'crana Pier	12:22						Dump Site	
20	Sand/Silt			12:26		B'crana Pier	12:31						Dump Site	

Total: 100 MT

Cumulative Total: 900 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-02 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	07-06-19	12:35	Slip	B'crana Pier	12:39	Dumpsite					Dump Site	PO'Sullivan
2	Sand/Silt			12:42		B'crana Pier	12:47						Dump Site	
3	Sand/Silt			12:51		B'crana Pier	12:56						Dump Site	
4	Sand/Silt			13:00		B'crana Pier	13:05	ll					Dump Site	
5	Sand/Silt			13:09		B'crana Pier	13:14						Dump Site	
6	Sand/Silt			13:26		B'crana Pier	13:22						Dump Site	
7	Sand/Silt			13:26		B'crana Pier	13:31	ll					Dump Site	
8	Sand/Silt			18:20	4 Fibre at berth	B'crana Pier	18:27						Dump Site	
9	Sand/Silt			18:32		B'crana Pier	18:40						Dump Site	
10	Sand/Silt			18:45		B'crana Pier	18:53						Dump Site	
11	Sand/Silt			18:58		B'crana Pier	19:05						Dump Site	
12	Sand/Silt			19:10		B'crana Pier	19:18						Dump Site	
13	Sand/Silt			19:21	STEP out	B'crana Pier	19:27						Dump Site	
14	Sand/Silt			19:31		B'crana Pier	19:36						Dump Site	
15	Sand/Silt			19:41		B'crana Pier	19:46						Dump Site	
16	Sand/Silt			19:51		B'crana Pier	19:57						Dump Site	
17	Sand/Silt		08-06-19	07:24		B'crana Pier	07:29						Dump Site	
18	Sand/Silt			07:33		B'crana Pier	07:38						Dump Site	
19	Sand/Silt			07:42		B'crana Pier	07:47						Dump Site	
20	Sand/Silt			07:50		B'crana Pier	07:55						Dump Site	

Total: 100 MT

Cumulative Total: 1000 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	08-06-19	08:01	STEPS	B'crana Pier	08:06					Dump Site	P. O. Sell	
2	Sand/Silt			08:11		B'crana Pier	08:16					Dump Site		
3	Sand/Silt			08:21		B'crana Pier	08:26					Dump Site		
4	Sand/Silt			08:31		B'crana Pier	08:37					Dump Site		
5	Sand/Silt			08:41	inner berth	B'crana Pier	08:46					Dump Site		
6	Sand/Silt			08:53		B'crana Pier	08:59					Dump Site		
7	Sand/Silt			09:03		B'crana Pier	09:08					Dump Site		
8	Sand/Silt			09:11		B'crana Pier	09:16					Dump Site		
9	Sand/Silt			09:20		B'crana Pier	09:24					Dump Site		
10	Sand/Silt			09:27		B'crana Pier	09:31					Dump Site		
11	Sand/Silt			09:35		B'crana Pier	09:41					Dump Site		
12	Sand/Silt			09:43		B'crana Pier	09:47					Dump Site		
13	Sand/Silt			09:51		B'crana Pier	09:54					Dump Site		
14	Sand/Silt			10:00		B'crana Pier	10:04					Dump Site		
15	Sand/Silt			10:08		B'crana Pier	10:13					Dump Site		
16	Sand/Silt			10:16	L.B.	B'crana Pier	10:22					Dump Site		
17	Sand/Silt			10:26		B'crana Pier	10:32					Dump Site		
18	Sand/Silt			10:37		B'crana Pier	10:43					Dump Site		
19	Sand/Silt			10:40		B'crana Pier	10:55					Dump Site		
20	Sand/Silt			10:00		B'crana Pier	11:06					Dump Site		

Total: 100 MT

Cumulative Total: 1100 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	8/6/19	11:00	inner pier	B'crana Pier	11:16	Dumpsite					Dump Site	PO Sully
2	Sand/Silt			11:21		B'crana Pier	11:27						Dump Site	
3	Sand/Silt			11:31		B'crana Pier	11:38						Dump Site	
4	Sand/Silt			11:42		B'crana Pier	11:48						Dump Site	
5	Sand/Silt			11:53		B'crana Pier	12:00						Dump Site	
6	Sand/Silt			12:05		B'crana Pier	12:12						Dump Site	
7	Sand/Silt			12:19		B'crana Pier	12:25						Dump Site	
8	Sand/Silt			12:28		B'crana Pier	12:36						Dump Site	
9	Sand/Silt			12:39		B'crana Pier	12:43						Dump Site	
10	Sand/Silt			12:49		B'crana Pier	12:55						Dump Site	
11	Sand/Silt			12:59		B'crana Pier	13:04						Dump Site	
12	Sand/Silt			13:08		B'crana Pier	13:15						Dump Site	
13	Sand/Silt			13:18	off site	B'crana Pier	13:22						Dump Site	
14	Sand/Silt			13:25		B'crana Pier	13:29						Dump Site	
15	Sand/Silt			13:32		B'crana Pier	13:36						Dump Site	
16	Sand/Silt			13:40		B'crana Pier	13:46						Dump Site	
17	Sand/Silt			13:47		B'crana Pier	13:51						Dump Site	
18	Sand/Silt			13:54		B'crana Pier	13:59						Dump Site	
19	Sand/Silt			14:03		B'crana Pier	14:07						Dump Site	
20	Sand/Silt			14:10		B'crana Pier	14:15						Dump Site	

Total: 100

MT

Cumulative Total: 1200 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-02 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	9/06/19	9:02	inner pier	B'crana Pier	9:07	Dump Site					Dump Site	POSullivan
2	Sand/Silt			9:14		B'crana Pier	9:19						Dump Site	
3	Sand/Silt			9:23		B'crana Pier	9:27						Dump Site	
4	Sand/Silt			9:30		B'crana Pier	9:34						Dump Site	
5	Sand/Silt			9:37		B'crana Pier	9:41						Dump Site	
6	Sand/Silt			9:45		B'crana Pier	9:49						Dump Site	
7	Sand/Silt			9:53		B'crana Pier	9:57						Dump Site	
8	Sand/Silt			10:01	Life boat B	B'crana Pier	10:05	Dump Site					Dump Site	
9	Sand/Silt			10:09		B'crana Pier	10:12						Dump Site	
10	Sand/Silt			10:15		B'crana Pier	10:19						Dump Site	
11	Sand/Silt			10:23		B'crana Pier	10:33						Dump Site	
12	Sand/Silt			10:39		B'crana Pier	10:46						Dump Site	
13	Sand/Silt			10:48		B'crana Pier	10:53						Dump Site	
14	Sand/Silt			10:57		B'crana Pier	11:02						Dump Site	
15	Sand/Silt			11:08		B'crana Pier	11:13						Dump Site	
16	Sand/Silt			11:18		B'crana Pier	11:24						Dump Site	
17	Sand/Silt			11:26		B'crana Pier	11:30						Dump Site	
18	Sand/Silt			11:35		B'crana Pier	11:40						Dump Site	
19	Sand/Silt			11:43		B'crana Pier	11:47						Dump Site	
20	Sand/Silt			11:50		B'crana Pier	11:55						Dump Site	

Total: 100

MT

Cumulative Total: 1300 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: _S0011-03_ Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	8/9/04 12/9/04	12:01	inner pier	B'crana Pier	12:06	Dump Site					Dump Site	P O Sullivan
2	Sand/Silt			12:10		B'crana Pier	12:16						Dump Site	
3	Sand/Silt			12:22		B'crana Pier	12:27						Dump Site	
4	Sand/Silt			12:30		B'crana Pier	12:37						Dump Site	
5	Sand/Silt			12:42		B'crana Pier	12:48						Dump Site	
6	Sand/Silt			12:53		B'crana Pier	12:59						Dump Site	
7	Sand/Silt			1:04		B'crana Pier	1:09						Dump Site	
8	Sand/Silt			1:15		B'crana Pier	1:20						Dump Site	
9	Sand/Silt			1:25		B'crana Pier	1:30						Dump Site	
10	Sand/Silt			1:35		B'crana Pier	1:43						Dump Site	
11	Sand/Silt			1:50		B'crana Pier	1:55						Dump Site	
12	Sand/Silt			2:00		B'crana Pier	2:05						Dump Site	
13	Sand/Silt			2:10		B'crana Pier	2:16						Dump Site	
14	Sand/Silt			2:20		B'crana Pier	2:27						Dump Site	
15	Sand/Silt			2:34		B'crana Pier	2:39						Dump Site	
16	Sand/Silt			2:44		B'crana Pier	2:49						Dump Site	
17	Sand/Silt			2:54		B'crana Pier	2:59						Dump Site	
18	Sand/Silt			3:05	Slip	B'crana Pier	3:10	Dump Site					Dump Site	
19	Sand/Silt			3:12		B'crana Pier	3:17						Dump Site	
20	Sand/Silt			3:21		B'crana Pier	3:25						Dump Site	

Total: 100

MT

Cumulative Total: 1400 MT

235

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	9/06/19	3:27	Slip	B'crana Pier	3:32	Dump site					Dump Site	PO'Sell
2	Sand/Silt		10/06/19	10:00	inner pier	B'crana Pier	10:30	Dump site					Dump Site	
3	Sand/Silt			10:14	Slip	B'crana Pier	10:18	Dump site					Dump Site	
4	Sand/Silt			10:21		B'crana Pier	10:26						Dump Site	
5	Sand/Silt			10:36		B'crana Pier	10:34						Dump Site	
6	Sand/Silt			10:37		B'crana Pier	10:40						Dump Site	
7	Sand/Silt			10:52	Life Boat B	B'crana Pier	10:55	Dump site					Dump Site	
8	Sand/Silt			11:00		B'crana Pier	11:08						Dump Site	
9	Sand/Silt			11:13		B'crana Pier	11:17						Dump Site	
10	Sand/Silt			11:21		B'crana Pier	11:27						Dump Site	
11	Sand/Silt			11:32		B'crana Pier	11:39						Dump Site	
12	Sand/Silt			11:41		B'crana Pier	11:49						Dump Site	
13	Sand/Silt			11:52		B'crana Pier	12:00						Dump Site	
14	Sand/Silt			12:02		B'crana Pier	12:09						Dump Site	
15	Sand/Silt			12:12		B'crana Pier	12:18						Dump Site	
16	Sand/Silt			12:22		B'crana Pier	12:29						Dump Site	
17	Sand/Silt			12:32		B'crana Pier	12:38						Dump Site	
18	Sand/Silt			12:43		B'crana Pier	12:44						Dump Site	
19	Sand/Silt			12:53		B'crana Pier	12:59						Dump Site	
20	Sand/Silt			13:02		B'crana Pier	13:08						Dump Site	

Total: 100

MT

Cumulative Total: 1,500 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	10/06/19	13:11	Sea ^{Life Boat}	B'crana Pier	13:18	Dumpsite					Dump Site	POS
2	Sand/Silt			13:20		B'crana Pier	13:28						Dump Site	
3	Sand/Silt			13:31		B'crana Pier	13:37						Dump Site	
4	Sand/Silt			13:40		B'crana Pier	13:47						Dump Site	
5	Sand/Silt			13:50		B'crana Pier	13:57						Dump Site	
6	Sand/Silt			14:03		B'crana Pier	14:10						Dump Site	
7	Sand/Silt			14:13		B'crana Pier	14:19						Dump Site	
8	Sand/Silt			14:23		B'crana Pier	14:29						Dump Site	
9	Sand/Silt			14:32		B'crana Pier	14:39						Dump Site	
10	Sand/Silt			14:42		B'crana Pier	14:48						Dump Site	
11	Sand/Silt			14:55		B'crana Pier	15:00						Dump Site	
12	Sand/Silt			15:07		B'crana Pier	15:13						Dump Site	
13	Sand/Silt			15:17		B'crana Pier	15:20						Dump Site	
14	Sand/Silt			15:27	Slip	B'crana Pier	15:30	Dumpsite					Dump Site	
15	Sand/Silt			15:32		B'crana Pier	15:35						Dump Site	
16	Sand/Silt			15:39		B'crana Pier	15:42						Dump Site	
17	Sand/Silt			15:44		B'crana Pier	15:47						Dump Site	
18	Sand/Silt			15:50		B'crana Pier	15:54						Dump Site	
19	Sand/Silt			15:57		B'crana Pier	16:00						Dump Site	
20	Sand/Silt			16:03		B'crana Pier	16:06						Dump Site	

Total: 100 MT Cumulative Total: 1,600 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-02 Vessel Name: Trojan Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

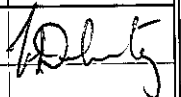
Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1 ⁰⁰	Sand/Silt	5	10/06/19	16:09	Slip	B'crana Pier	16:12	Dumpsite					Dump Site	POSeall
2	Sand/Silt		11/06/19	10:35	Inner Pier	B'crana Pier	10:41	Dumpsite					Dump Site	
3	Sand/Silt			10:45		B'crana Pier	10:50						Dump Site	
4	Sand/Silt			10:54		B'crana Pier	11:00						Dump Site	
5	Sand/Silt			11:04		B'crana Pier	11:09						Dump Site	
6	Sand/Silt			11:13		B'crana Pier	11:20						Dump Site	
7	Sand/Silt			11:23		B'crana Pier	11:29						Dump Site	
8	Sand/Silt			11:32		B'crana Pier	11:38						Dump Site	
9	Sand/Silt			11:41		B'crana Pier	11:47						Dump Site	
10	Sand/Silt			11:50		B'crana Pier	11:56						Dump Site	
11	Sand/Silt			12:00		B'crana Pier	12:06						Dump Site	
12	Sand/Silt			12:10		B'crana Pier	12:14						Dump Site	
13	Sand/Silt			12:17		B'crana Pier	12:24						Dump Site	
14	Sand/Silt			12:27		B'crana Pier	12:33						Dump Site	
15	Sand/Silt			12:37		B'crana Pier	12:44						Dump Site	
16	Sand/Silt			12:47		B'crana Pier	12:52						Dump Site	
17	Sand/Silt			12:52		B'crana Pier	13:03						Dump Site	
18	Sand/Silt			13:06	Slip	B'crana Pier	13:10	Dumpsite					Dump Site	
19	Sand/Silt			13:13		B'crana Pier	13:16						Dump Site	
20	Sand/Silt			13:19		B'crana Pier	13:23						Dump Site	

100

11700

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt		11/4/19	13:30	Buncrana Pier	B'crana Pier	13:30	Dump site			13:30		Dump Site	
2	Sand/Silt				Buncrana Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt				18:30	B'crana Pier	18:30				18:30		Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

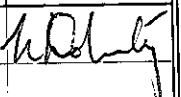
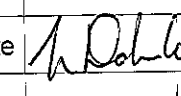
Cumulative Total: 6,500 MT

REGISTER OF LOADS DUMPED AT SEA

 Permit No.: S0011-03 Vessel Name: TROJAN

 Type of Soil: Sand/Silt

 Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt		12/6/19	11:50		B'crana Pier	11:50				11:50		Dump Site	 
2	Sand/Silt				Bancrana Pier								Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt			15:00		B'crana Pier	15:00				15:00		Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

 Total: 100 MT

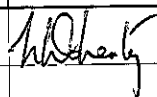
 Cumulative Total: 1900 MT

REGISTER OF LOADS DUMPED AT SEA

 Permit No.: S0011-03 Vessel Name: TROJAN

 Type of Soil: Sand/Silt

 Method of Positioning: Plough Dredging

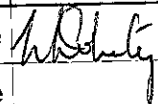
Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt		12/1/19	15:15		B'crana Pier	15:15						Dump Site	
2	Sand/Silt				Buncrana Pier.	B'crana Pier		Dump site					Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier					19:30		Dump Site	
19	Sand/Silt				19:30	B'crana Pier	19:30						Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

 Total: 100 MT

 Cumulative Total: 2,000 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

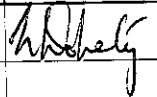
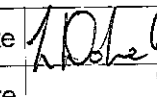
Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Place			
1	Sand/Silt		13/6/19	12:30	Bencrana Pier.	B'crana Pier	12:30	Dump Site			12:30		Dump Site	
2	Sand/Silt					B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt				16:00	B'crana Pier	16:00				16:00		Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 2,100 MT

REGISTER OF LOADS DUMPED AT SEA

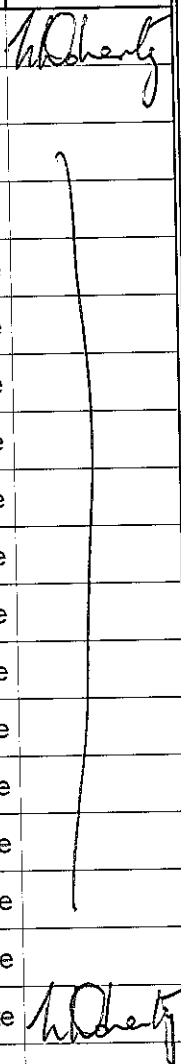
Permit No.: S0011-03 Vessel Name: TRAJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Place			
1	Sand/Silt	5	13/6/19	16:15	Banana	B'crana Pier	16:15					Dump Site		
2	Sand/Silt				Pier	B'crana Pier						Dump Site		
3	Sand/Silt					B'crana Pier						Dump Site		
4	Sand/Silt					B'crana Pier						Dump Site		
5	Sand/Silt					B'crana Pier						Dump Site		
6	Sand/Silt					B'crana Pier						Dump Site		
7	Sand/Silt					B'crana Pier						Dump Site		
8	Sand/Silt					B'crana Pier						Dump Site		
9	Sand/Silt					B'crana Pier						Dump Site		
10	Sand/Silt					B'crana Pier						Dump Site		
11	Sand/Silt					B'crana Pier						Dump Site		
12	Sand/Silt					B'crana Pier						Dump Site		
13	Sand/Silt					B'crana Pier						Dump Site		
14	Sand/Silt					B'crana Pier						Dump Site		
15	Sand/Silt					B'crana Pier						Dump Site		
16	Sand/Silt					B'crana Pier						Dump Site		
17	Sand/Silt					B'crana Pier						Dump Site		
18	Sand/Silt					B'crana Pier						Dump Site		
19	Sand/Silt			19:45		B'crana Pier	19:45			19:45		Dump Site		
20	Sand/Silt					B'crana Pier						Dump Site		

Total: 100 MT Cumulative Total: 2,200 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed											
				Time	Position	Place	Time	Position	Time	Position	Place														
1	Sand/Silt	5	18/6/19	7:10	Beneana	B'crana Pier	7:10	Outer End		Dump Site	7:15		Dump Site												
2	Sand/Silt												Dump Site												
3	Sand/Silt												Dump Site												
4	Sand/Silt												Dump Site												
5	Sand/Silt												Dump Site												
6	Sand/Silt												Dump Site												
7	Sand/Silt												Dump Site												
8	Sand/Silt												Dump Site												
9	Sand/Silt												Dump Site												
10	Sand/Silt												Dump Site												
11	Sand/Silt												Dump Site												
12	Sand/Silt												Dump Site												
13	Sand/Silt												Dump Site												
14	Sand/Silt												Dump Site												
15	Sand/Silt												Dump Site												
16	Sand/Silt												Dump Site												
17	Sand/Silt												Dump Site												
18	Sand/Silt														11:30		B'crana Pier						11:30		Dump Site
19	Sand/Silt																B'crana Pier								Dump Site
20	Sand/Silt																B'crana Pier								Dump Site

Total: 100 MT

Cumulative Total: 2,300 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Place			
1	Sand/Silt		18/6/19	16:05	Buncrana	B'crana Pier	16:05	Outer End		Dump Site	16:10		Dump Site	A. O'Leary
2	Sand/Silt				Pier.	B'crana Pier		Buncrana		Dump Site			Dump Site	
3	Sand/Silt					B'crana Pier		Pier		Dump Site			Dump Site	
4	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
5	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
6	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
7	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
8	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
9	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
10	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
11	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
12	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
13	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
14	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
15	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
16	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
17	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
18	Sand/Silt					B'crana Pier	19:50			Dump Site	20:00		Dump Site	
19	Sand/Silt					B'crana Pier				Dump Site			Dump Site	
20	Sand/Silt					B'crana Pier				Dump Site			Dump Site	

Total: 100 MT Cumulative Total: 2,400 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	19/6/19	7:10		B'crana Pier	7:15	Outer End		Dump Site	7:25		Dump Site	A. Deady
2	Sand/Silt				Buena	B'crana Pier		Pier.		Site			Dump Site	
3	Sand/Silt				Pier	B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier	12:15				12:20		Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 2,500 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	19/6/19	16:40	Buncrana	B'crana Pier	16:45	Outer End	Dump	16:50		Dump Site	H. Doherty	
2	Sand/Silt				Pier	B'crana Pier		Pier	Site			Dump Site		
3	Sand/Silt					B'crana Pier						Dump Site		
4	Sand/Silt					B'crana Pier						Dump Site		
5	Sand/Silt					B'crana Pier						Dump Site		
6	Sand/Silt					B'crana Pier						Dump Site		
7	Sand/Silt					B'crana Pier						Dump Site		
8	Sand/Silt					B'crana Pier						Dump Site		
9	Sand/Silt					B'crana Pier						Dump Site		
10	Sand/Silt					B'crana Pier						Dump Site		
11	Sand/Silt					B'crana Pier						Dump Site		
12	Sand/Silt					B'crana Pier						Dump Site		
13	Sand/Silt					B'crana Pier						Dump Site		
14	Sand/Silt					B'crana Pier						Dump Site		
15	Sand/Silt					B'crana Pier						Dump Site		
16	Sand/Silt					B'crana Pier						Dump Site		
17	Sand/Silt					B'crana Pier						Dump Site		
18	Sand/Silt			19:55		B'crana Pier	19:50			19:55		Dump Site		
19	Sand/Silt					B'crana Pier						Dump Site		
20	Sand/Silt					B'crana Pier						Dump Site		

Total: 100 MT

Cumulative Total: 2,600 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Place			
1	Sand/Silt	5	20/6/19	7:00	Buncrana	B'crana Pier	7:05	Slipway	7:05	Dump Site				h. Doherty
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt			13:00		B'crana Pier			13:00		13:00		Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 2,200 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TRAJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Place			
1	Sand/Silt	5	20/6/19	17:15	Slipway	B'crana Pier	17:20	Slipway	17:20	Dump Site	17:20		Dump Site	H. O'Herly
2	Sand/Silt					B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt			8:00		B'crana Pier	19:55		20:00		20:00		Dump Site	H. O'Herly
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 2,500 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAM Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed	
				Time	Position	Place	Time	Position	Time	Position	Place				
1	Sand/Silt	5	21/6/19	7:00	Bancrana	B'crana Pier	7:05	Outer end	7:05	Dump Site	7:20		Dump Site	H. Doherty	
2	Sand/Silt				Pier	B'crana Pier		of pier					Dump Site		
3	Sand/Silt					B'crana Pier							Dump Site	H. Doherty	
4	Sand/Silt					B'crana Pier							Dump Site		
5	Sand/Silt					B'crana Pier							Dump Site		
6	Sand/Silt					B'crana Pier							Dump Site		
7	Sand/Silt					B'crana Pier							Dump Site		
8	Sand/Silt					B'crana Pier							Dump Site		
9	Sand/Silt					B'crana Pier							Dump Site		
10	Sand/Silt					B'crana Pier							Dump Site		
11	Sand/Silt					B'crana Pier							Dump Site		
12	Sand/Silt					B'crana Pier							Dump Site		
13	Sand/Silt					B'crana Pier							Dump Site		
14	Sand/Silt					B'crana Pier							Dump Site		
15	Sand/Silt					B'crana Pier							Dump Site		
16	Sand/Silt					B'crana Pier							Dump Site		
17	Sand/Silt					B'crana Pier							Dump Site		
18	Sand/Silt					B'crana Pier	13:25		13:30		13:30		Dump Site		H. Doherty
19	Sand/Silt					B'crana Pier							Dump Site		
20	Sand/Silt					B'crana Pier							Dump Site		

Total: 100 MT

Cumulative Total: 2,900 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	21/6/19	17:20	Bencrana Pier	B'crana Pier	17:25	End of pier	17:30	Dump Site	17:30		Dump Site	K. Doherty
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt			20:00		B'crana Pier	19:55		20:00		20:00		Dump Site	K. Doherty
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 3,000 MT

REGISTER OF LOADS DUMPED AT SEA

 Permit No.: S0011-03 Vessel Name: TRIJANI

 Type of Soil: Sand/Silt

 Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	22/6/19	7:00	Bancera	B'crana Pier	7:05	End of Pier	7:10	Dump Site	7:10		Dump Site	A. Roberts
2	Sand/Silt				Pier.	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt				14:30	B'crana Pier	14:25		14:30		14:30		Dump Site	A. Roberts
20	Sand/Silt					B'crana Pier							Dump Site	

 Total: 100 MT

 Cumulative Total: 3,100 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN

Type of Soil: Sand/Silt

Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	22/6/19	17:50	Bencrana	B'crana Pier	17:55	End of Pier	18:00		18:00		Dump Site	A. Deherly
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier	19:55		20:00		20:00		Dump Site	A. Deherly
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 3,200 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Place			
1	Sand/Silt	5	23/6/19	7:05	Burcraha	B'crana Pier	7:10	End of pier	7:10	Dump Site	7:15		Dump Site	H. Doherty
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt			15:30		B'crana Pier	15:25		15:30		15:30		Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 3,300 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Place			
1	Sand/Silt	5	23/6/19	18:15	Buncrana	B'crana Pier	18:20	End of pier	18:25		18:25		Dump Site	h. Doherty
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt			20:00		B'crana Pier	19:55		20:00		20:00		Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 3,400 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJANI Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt		24/6/19	8:00	Bancrana	B'crana Pier	8:05	End of pier	8:40	Dump Site	8:10		Dump Site	H. Doherty
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt			19:30		B'crana Pier	19:25		19:30		19:30		Dump Site	H. Doherty
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 3,500 MT

REGISTER OF LOADS DUMPED AT SEA

 Permit No.: S0011-03 Vessel Name: TROJAN

 Type of Soil: Sand/Silt

 Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	25/6/19	8:00	Bencrana	B'crana Pier	8:05	End of Pier	8:10	Dump Site	8:10		Dump Site	h. Doherty
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt			18:30		B'crana Pier	18:25		18:30		18:30		Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

 Total: 100 MT

 Cumulative Total: 3,600 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Place			
1	Sand/Silt	5	26/6/19	9:00	Bancrana	B'crana Pier	9:05	End of Pier	9:10	Dump Site	9:10		Dump Site	H. Doherty
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt			19:00		B'crana Pier	18:55		19:00		19:00		Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 200 MT

Cumulative Total: 3,500 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	27/6/19	10:00	Buncrana	B'crana Pier	10:05	End of pier	10:10	Dump site	10:10		Dump Site	h. D. O'Leary
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt			20:00		B'crana Pier	19:55		20:00		20:00		Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 200 MT

Cumulative Total: 4,000 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN

Type of Soil: Sand/Silt

Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Place			
1	Sand/Silt	5	28/6/19	11:00	Bancoran	B'crana Pier	11:05	End of Pier	11:10	Dump Site	11:10		Dump Site	H. Deherly
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt			20:00		B'crana Pier	19:55		20:00		20:00		Dump Site	H. Deherly
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 200 MT

Cumulative Total: 4,200 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROSAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	2/7/19	7:00	Bancrana	B'crana Pier	7:05	End of Pier	7:10	Dump Site	7:10		Dump Site	A. Debedy
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt			11:00		B'crana Pier	10:55		11:00		11:00		Dump Site	A. Debedy
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 4,300 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	2/7/19	15:00	Bancana	B'crana Pier	15:05	End of pier	15:10	Dump Site	15:10		Dump Site	M. Doherty
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt			20:00		B'crana Pier	19:55		20:00		20:00		Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 4,400 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN Type of Soil: Sand/Silt Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	3/7/19	7:00	Bencrana	B'crana Pier	7:05	End of Pier	7:10	Dump Site	7:10		Dump Site	H. O'Sherly
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt			11:40		B'crana Pier	11:35		11:40		11:40		Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt					B'crana Pier							Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 4,500 MT

REGISTER OF LOADS DUMPED AT SEA

Permit No.: S0011-03 Vessel Name: TROJAN

Type of Soil: Sand/Silt

Method of Positioning: Plough Dredging

Load No.	Material Source	Quantity on board MT	Date	Departure			Dumping Start		Dumping End		Return			Signed
				Time	Position	Place	Time	Position	Time	Position	Time	Position	Place	
1	Sand/Silt	5	3/7/19	15:40	Buncrana	B'crana Pier	15:45	End of Pier	15:50	Dump Site	15:50		Dump Site	H. Deady
2	Sand/Silt				Pier	B'crana Pier							Dump Site	
3	Sand/Silt					B'crana Pier							Dump Site	
4	Sand/Silt					B'crana Pier							Dump Site	
5	Sand/Silt					B'crana Pier							Dump Site	
6	Sand/Silt					B'crana Pier							Dump Site	
7	Sand/Silt					B'crana Pier							Dump Site	
8	Sand/Silt					B'crana Pier							Dump Site	
9	Sand/Silt					B'crana Pier							Dump Site	
10	Sand/Silt					B'crana Pier							Dump Site	
11	Sand/Silt					B'crana Pier							Dump Site	
12	Sand/Silt					B'crana Pier							Dump Site	
13	Sand/Silt					B'crana Pier							Dump Site	
14	Sand/Silt					B'crana Pier							Dump Site	
15	Sand/Silt					B'crana Pier							Dump Site	
16	Sand/Silt					B'crana Pier							Dump Site	
17	Sand/Silt			20:00		B'crana Pier	19:55		20:00		20:00		Dump Site	
18	Sand/Silt					B'crana Pier							Dump Site	
19	Sand/Silt					B'crana Pier							Dump Site	
20	Sand/Silt					B'crana Pier							Dump Site	

Total: 100 MT

Cumulative Total: 4,600 MT

Appendix 2

OSPAR Dumping Report

S0011 - 03 OSPAR RETURN 2019

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)?	4600
(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 Pat O'Sullivan, Shay Fennelly, and John O'Raw and Niamh 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	4600 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 Trojan
(i)	Vessel(s) load (tonnes)	Each trip the vessel carries five 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 on 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 Surveys

Report on the Buncrana Pier Area Dredge Campaign May-July 2019

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Summary

The dredging campaign from May-July 2019 concentrated on the south channel, primarily for use by the lifeboat (marked in blue). 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 and the blue area is the extent of the loading area [1].

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

Tidal compensation was to local chart datum, which is +54.73m to ETRS89 and -2.7m to OD MSL Malin Head. Diagrams are geodetic in decimal degrees for contour data and Irish Grid for volume calculations.

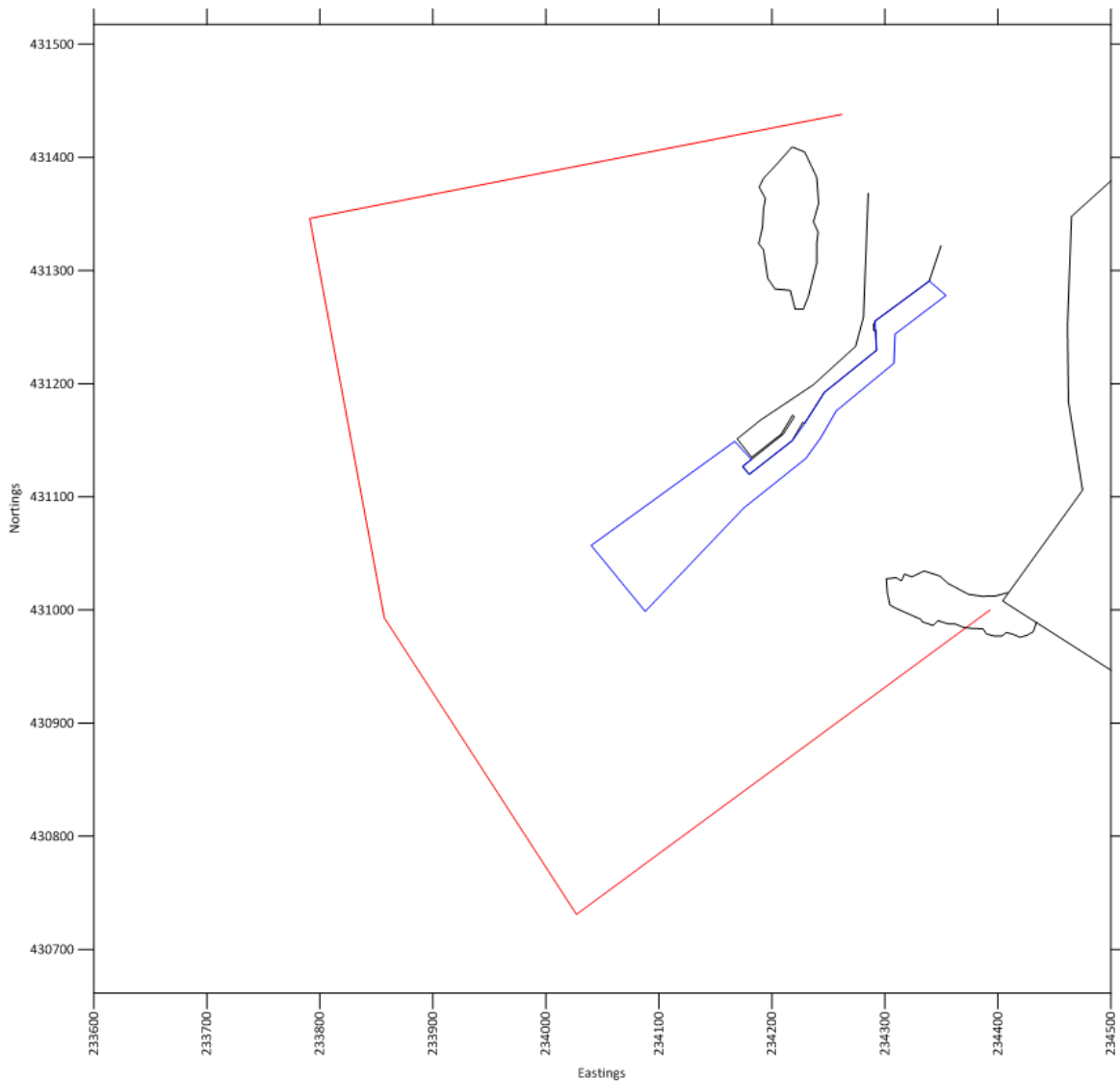


Figure 1. Defined areas in Irish Grid

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

29 th May	Pre-dredge survey of pier and spoil area.
14 th June	Survey after first phase, before second phase, of pier and spoil area.
30 th June	Survey of pier area only to assess efficacy.
4 th July	End of campaign survey of pier and spoil area.

Conditions on 30th June were marginal and the data is noisy, sufficient to evaluate efficacy but unsuited to volume calculations, it will not be included in this report.

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

The total volume difference between 31st May and 4th July is estimated at **1,655 m³**.

Survey of 29th May 2019

Data was taken on 29th May prior to the commencement of dredging and a representation in geodetic coordinates is shown in Figure 2.

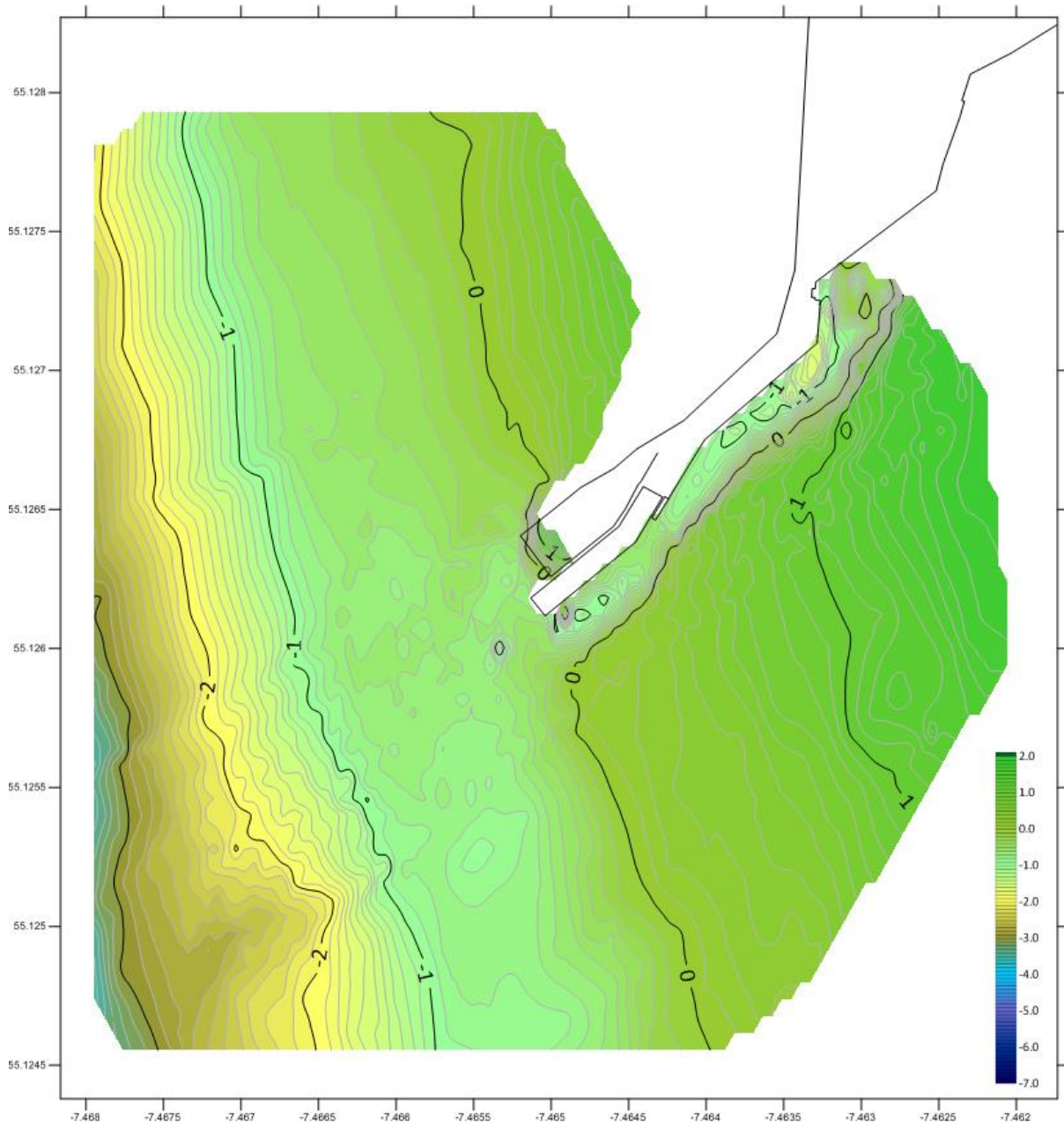


Figure 2. Pier area as of 29th May 2019

Survey of 14th June 2019

Data was taken on 14th June after the first dredging campaign. A representation in geodetic coordinates is shown in Figure 3.

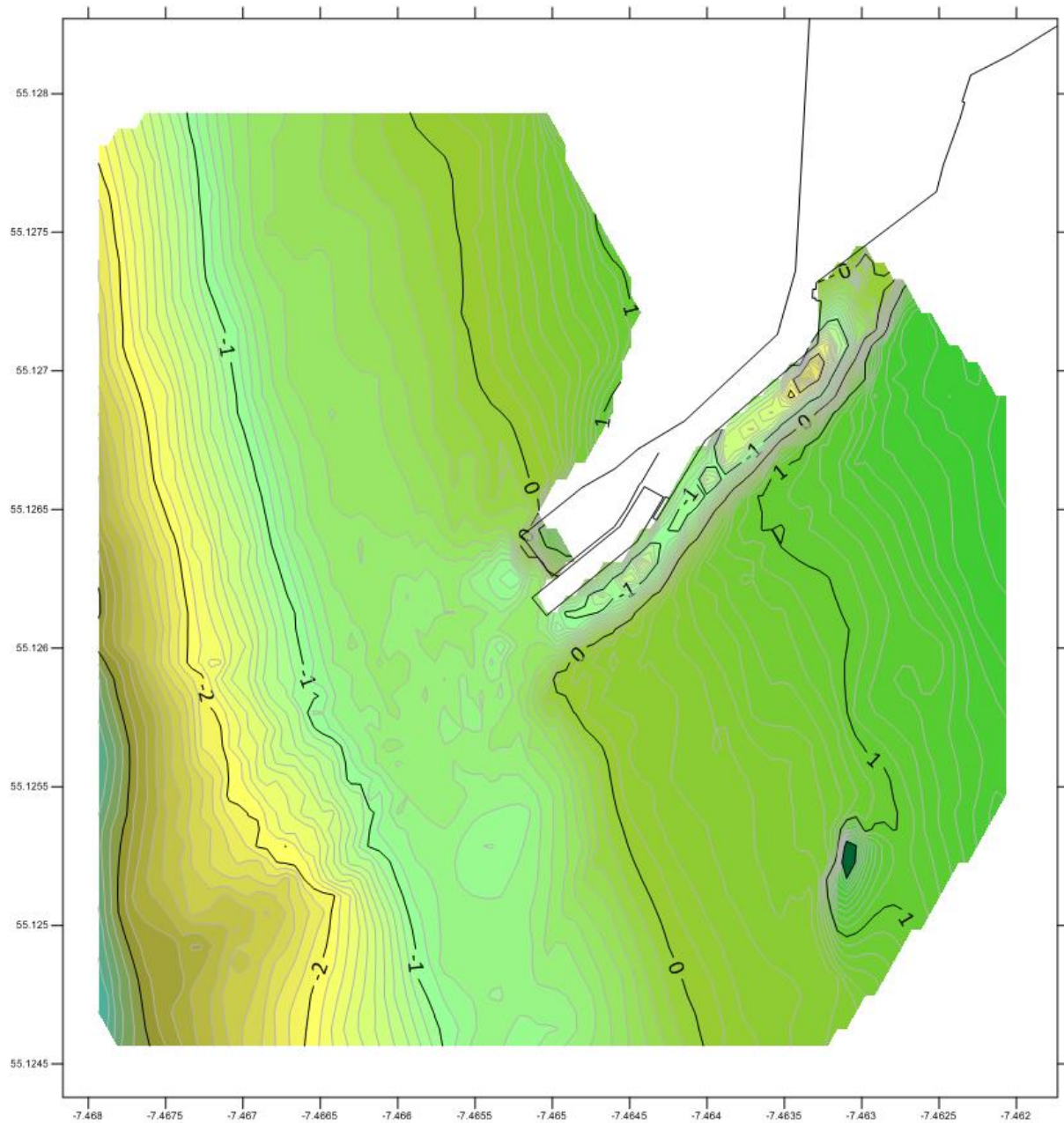


Figure 3. Pier area as of 14th June 2019

There was an improvement along the south channel with a calculated volume difference of **830 m³** and a volume difference of **1,284 m³** in the loading area overall.

This is more clearly seen in a differential profile from the lifeboat berth to the -2m contour as shown in Figure 4.

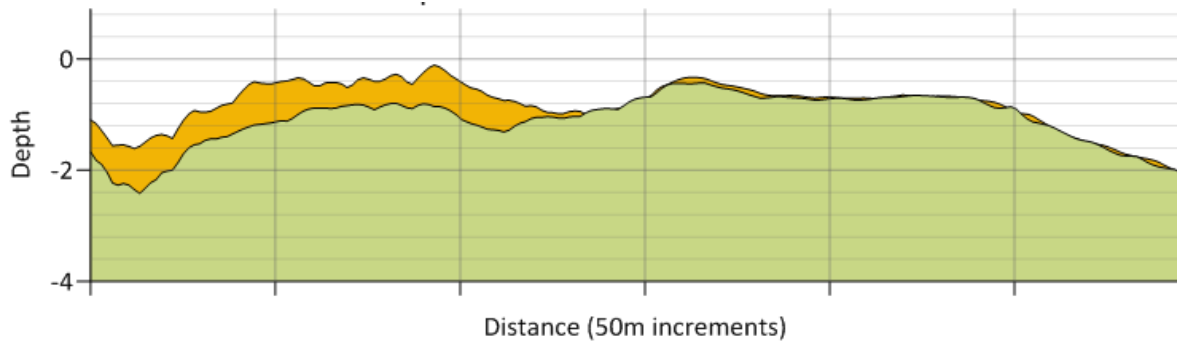


Figure 4. Differential profile between 31st May and 14th June 2019

The profile from 29th May shows in orange, 14th June shows in green. The south channel was reduced by c. 0.4m along the pier, however, no reduction occurred west of the pier.

Survey of 4th July 2019

Data was taken on 4th July at the end of the second dredging operation. A representation in geodetic coordinates is shown in Figure 5.

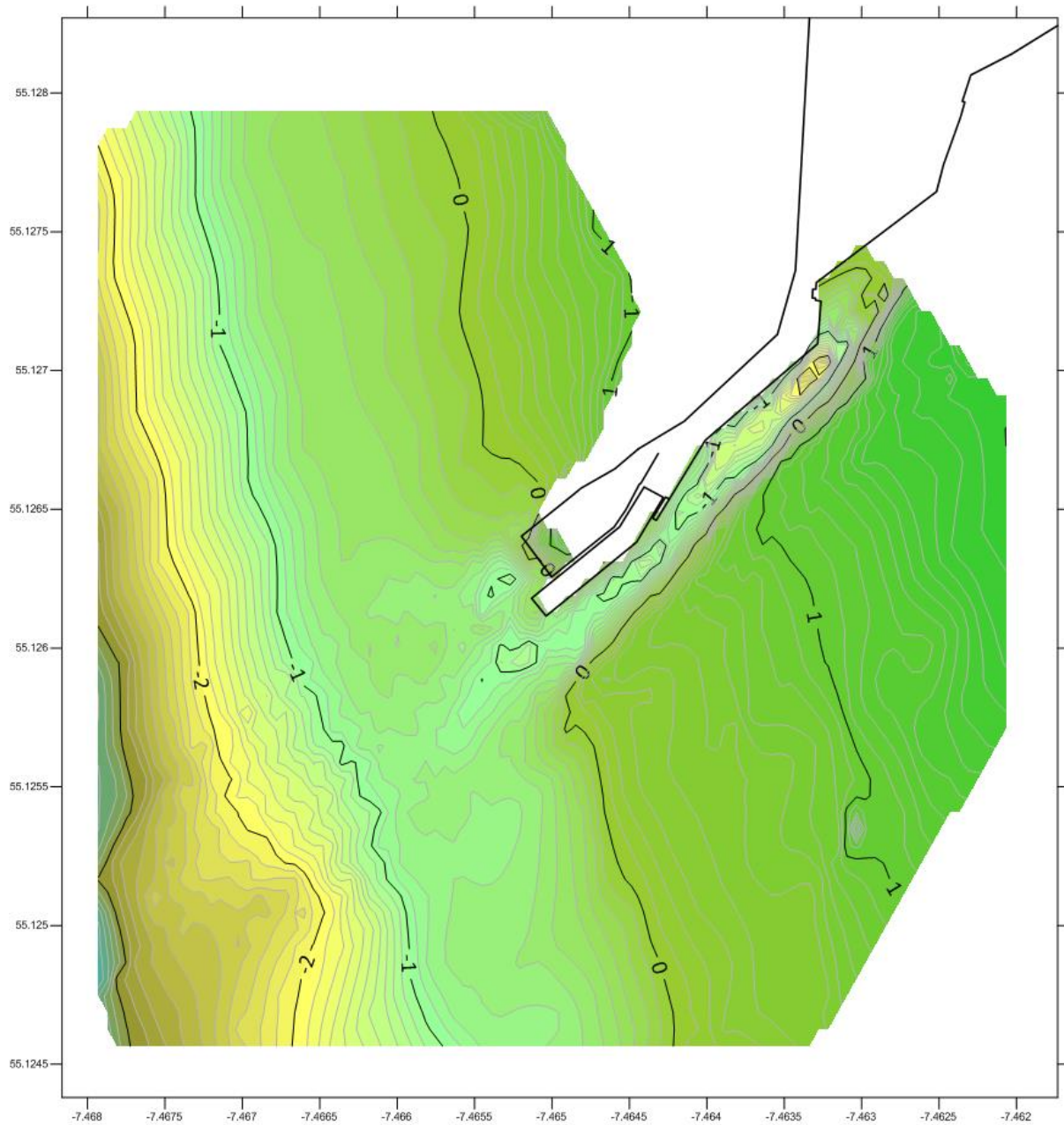


Figure 5. Pier area as of 4th July 2019

There was a calculated volume difference of **371 m³** in the loading area compared to 14th June and a total calculated volume difference of **1,655 m³** compared to 31st May.

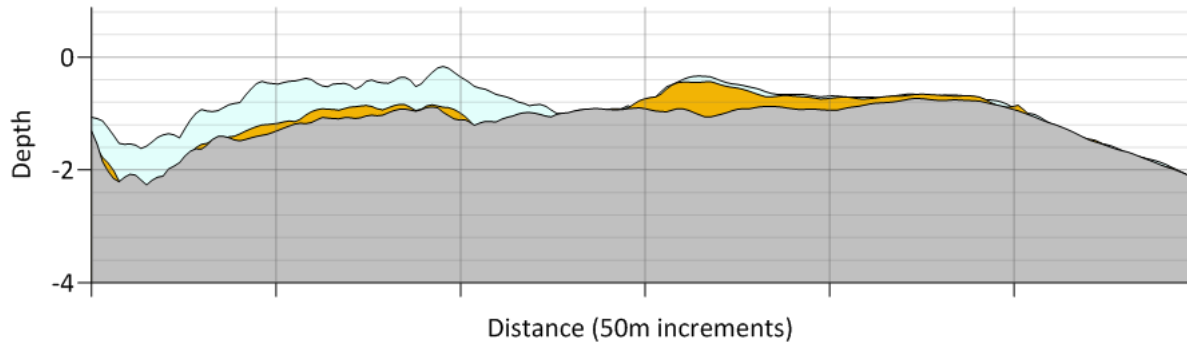


Figure 6. Differential profiles, 31st May, 14th June, 4th July 2019

The profile in Figure 6 shows profiles from 29th May in light blue, 14th June in orange, 4th July in grey. In this phase, the contractor concentrated on the area outside the ferry mooring and the area west of the pier, in particular, the high point at the end of the pier. This can be clearly seen.

References

[1] Application for a Dumping at Sea Permit to facilitate maintenance dredging at Bunrana Pier, Co Donegal on behalf of Donegal County Council, Malachy Walshe and Partners, V. 4 10th November 2015.

Report on the Buncrana Spoil Area Dredge Campaign May-July 2019

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Summary

The dredging campaign from May-July 2019 concentrated on the south channel, primarily for use by the lifeboat (marked in blue). 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 and the blue area is the extent of the loading area [1].

In the pier area and channel, single beam bathymetry was carried out with line spacing of 10m. In the spoil area single beam bathymetry was carried out with line spacing of 25m.

Tidal compensation was to local chart datum, which is +54.73m to ETRS89 and -2.7m to OD MSL Malin Head. Diagrams are geodetic in decimal degrees for contour data and Irish Grid for volume calculations.

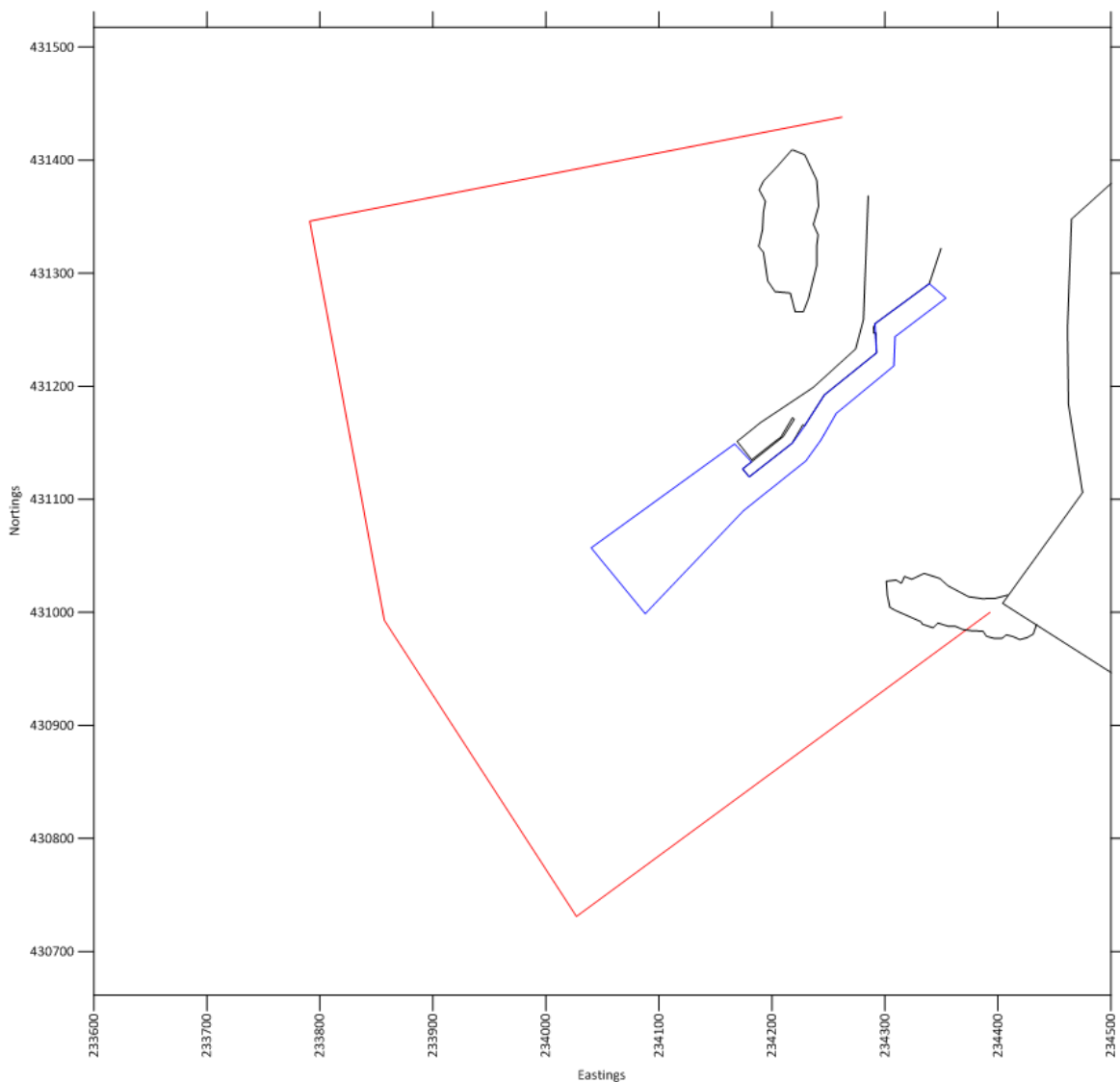


Figure 1. Defined areas in Irish Grid

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

31 st May	Pre-dredge survey of pier and spoil area.
14 th June	Survey after first phase, before second phase, of pier and spoil area.
30 th June	Survey of pier area only to assess efficacy.
4 th July	End of campaign survey of pier and spoil area.

Conditions on 30th June were marginal and the data is noisy, sufficient to evaluate efficacy but unsuited to volume calculations, it will not be included in this report.

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

The total volume difference between 31st May and 4th July is estimated at **1,655 m³**.

Survey of 29th May 2019

An initial survey of the spoil area was taken on 29th May prior to works commencing.

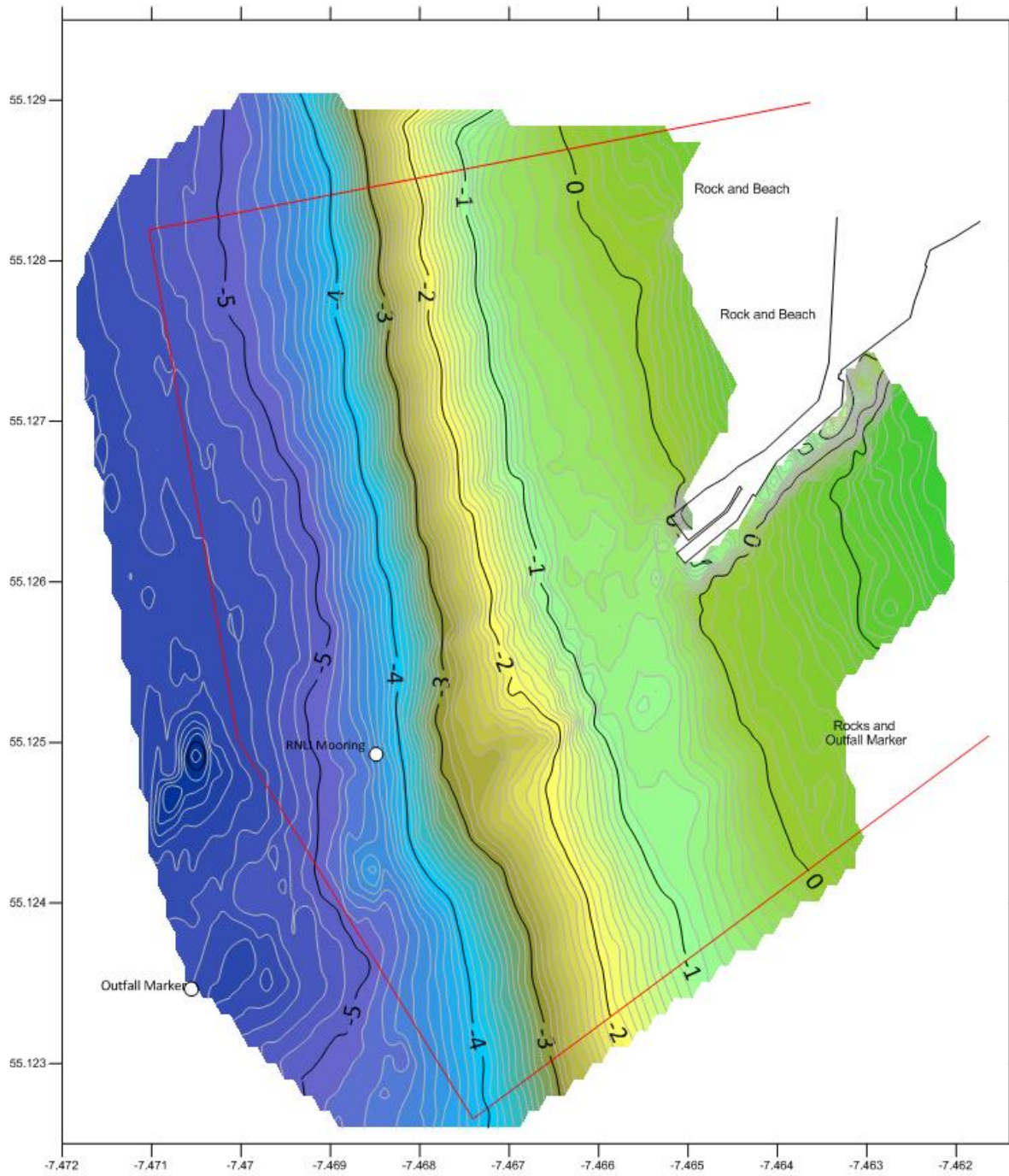


Figure 2. Contour map of spoil area, 29th May 2019

Survey of 14th June 2019

A survey of the spoil area was taken on 14th June after the first campaign.

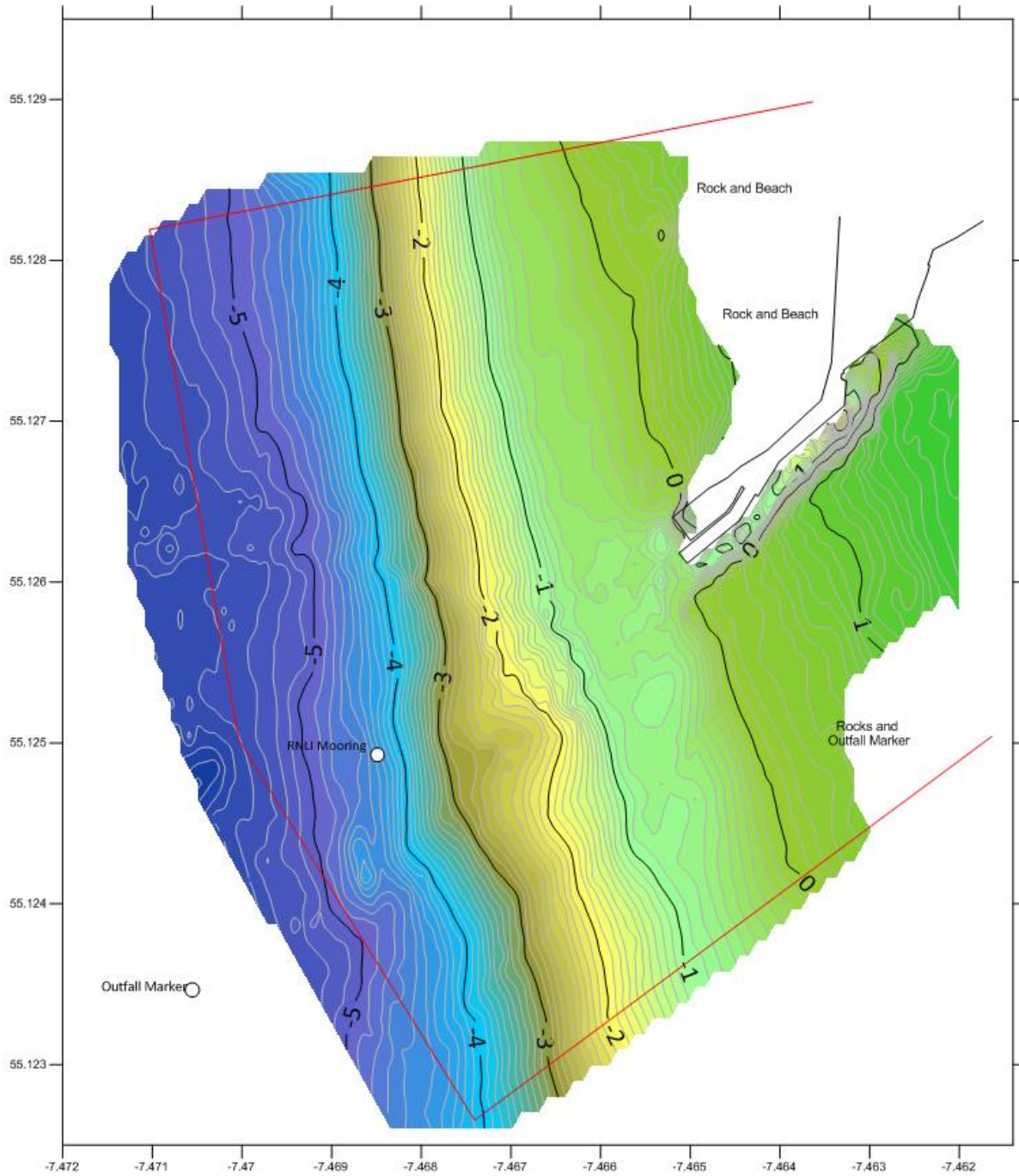


Figure 3. Contour map of spoil area, 14th June 2019

Analysis

In this dredge campaign, the concentration of the operator was in the channel south of the pier, little dredging work was done in open water west of the pier. At this resolution, this work is difficult to discern.

Morphology

For clarity, the minor contour lines have been removed and the 1m contours of the survey of 14th June (blue) have been overlaid on the contours of 29th May (black), any difference in the contours from 0m to -4m is negligible. The only contour showing measurable difference is the -5m contour, with a difference of c. 10cm from the previous two surveys across several hundred meters.

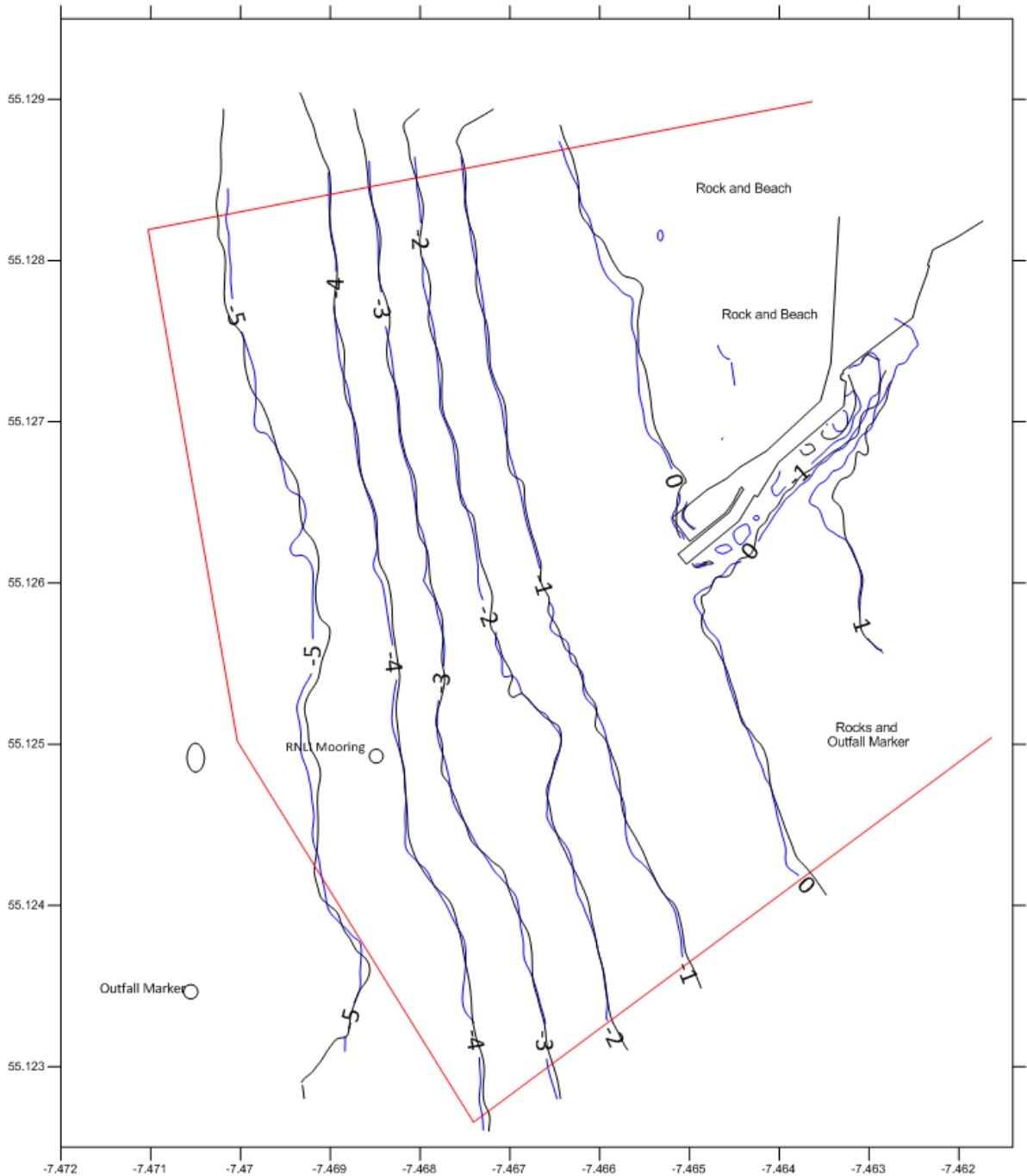


Figure 4. Morphology map of spoil area, 29th May to 14th June 2019

Survey of 4th July 2019

A final survey of the spoil area was taken on 4th July after the second campaign.

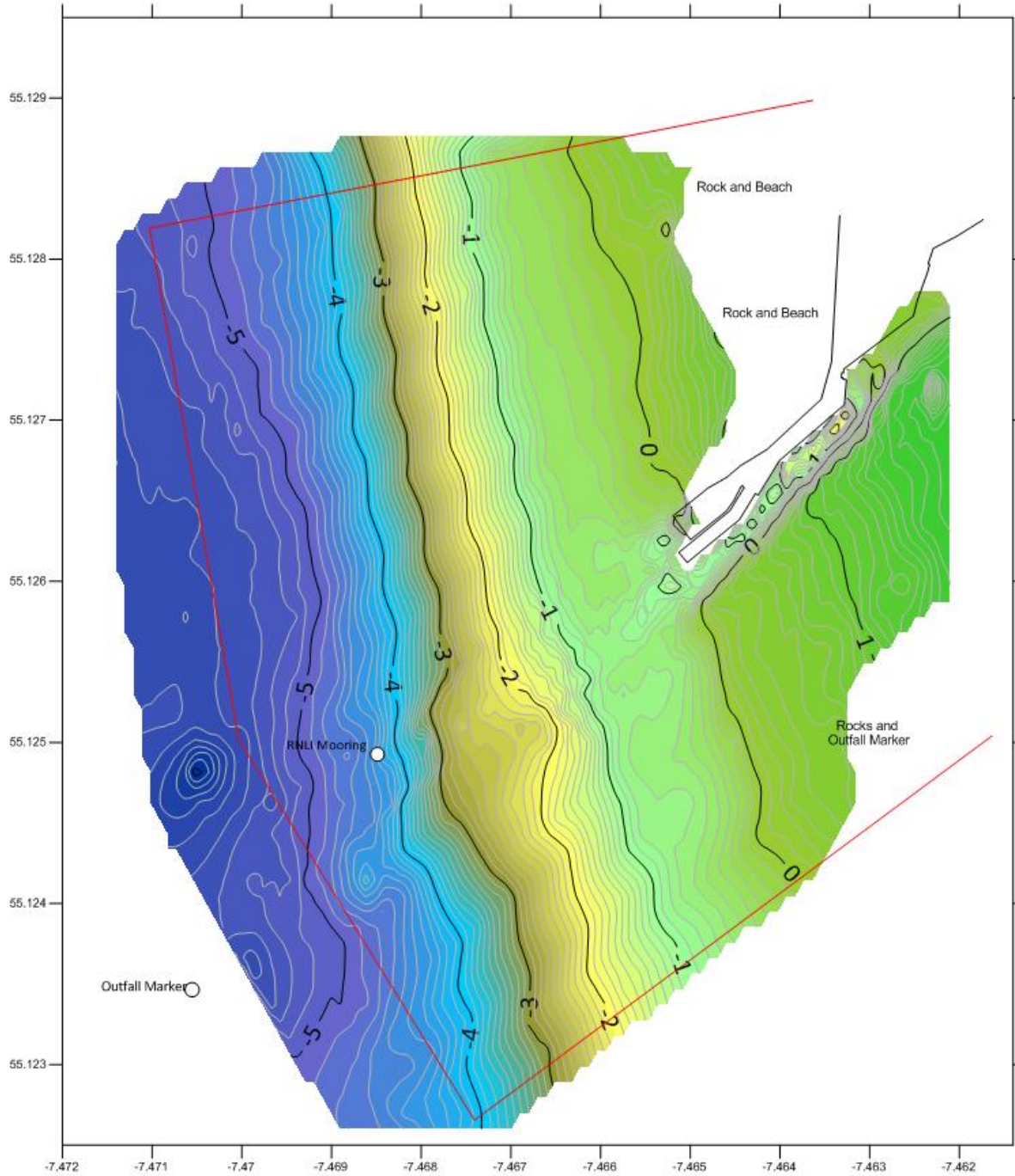


Figure 5. Contour map of spoil area, 4th July 2019

Analysis

The second dredge campaign concluded in late June and a post-dredge survey was completed. The dredge operator in this case was instructed to concentrate on the ferry berth and on the south channel, from the end of the pier westwards.

Morphology

The 1m contours of the survey of 4th July (green) and 14th June (blue) have been overlaid on the contours of 29th May (black) and any difference in the contours from 0m to -4m is negligible. The only contour showing measurable difference is the -5m contour, with a difference of c. 10cm from the previous two surveys across several hundred meters.

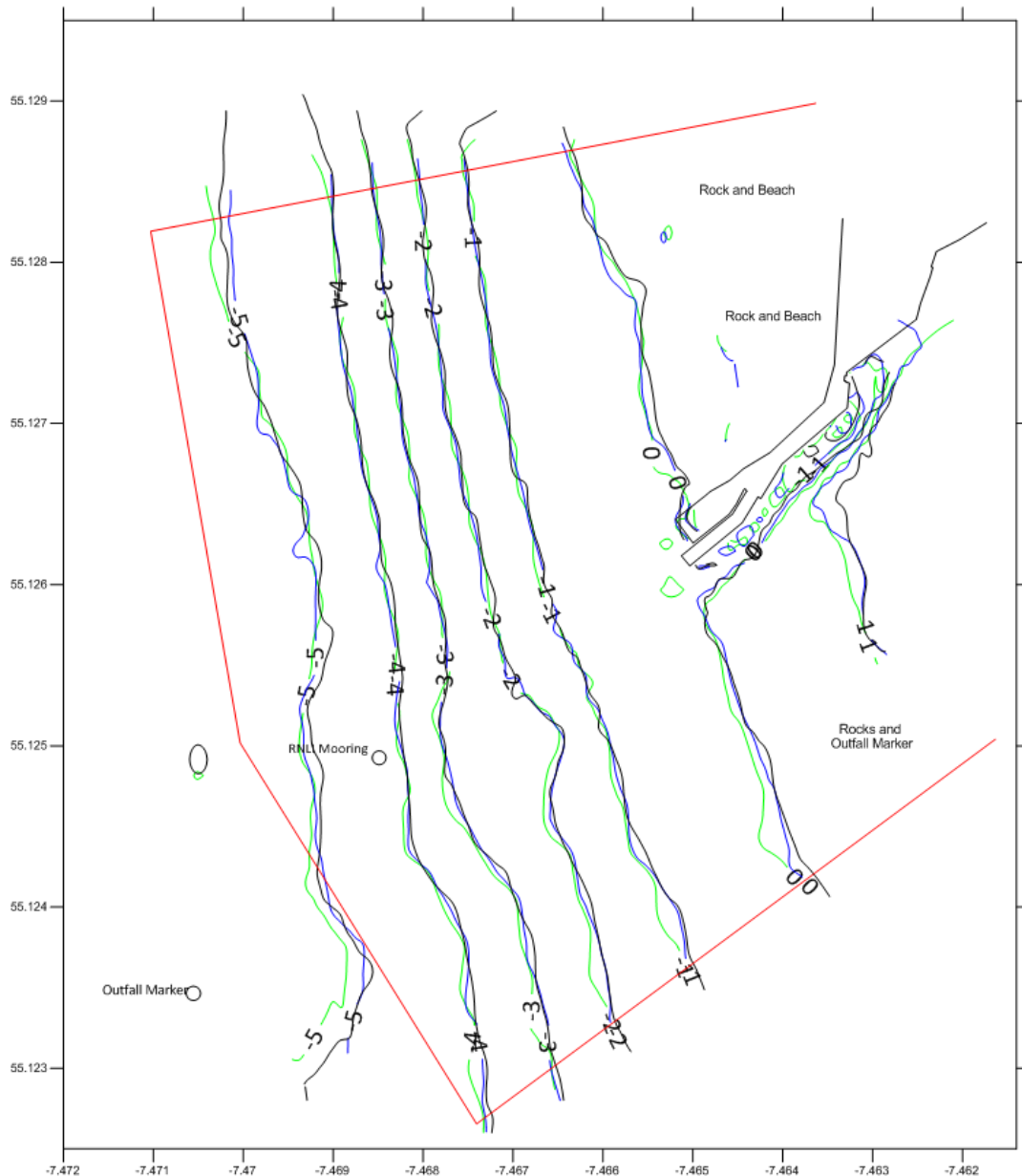


Figure 6. Morphology map of spoil area, 29th May, 14th June, 4th July 2019

Conclusion

It has been calculated that

1. 1,284 m³ of material was removed between 29th May and 14th June 2019.
2. 371 m³ of material was removed between 14th June and 4th July.

There is some small variation around the south channel around the -2m mark, this was expected as this is the area where the dredge operator was pulling to in this campaign.

The overall area enclosed by the box is c. 275,000m². If this volume of material was deposited evenly across this area it will not be measurable and will be indistinguishable from noise.

There are no heaps of material or new anomalies. The only contour showing measurable difference is the -5m contour, with a difference of c. 10cm across several hundred meters. This is consistent with last year's results.

References

[1] Application for a Dumping at Sea Permit to facilitate maintenance dredging at Bunrana Pier, Co Donegal on behalf of Donegal County Council, Malachy Walshe and Partners, V. 4 10th November 2015.

Appendix 5

Marine Mammal Monitoring Report

Executive Summary

Atlantic Towage (the client) requested a Marine Mammal Observer for the dredging campaign at Bunrana 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 13 days (from 18th to 28th June and 2nd and 3rd July) two 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 Trojan, MMSI 250001394, operating a towed plough.

Observations were carried out from the pier deck (6.5m above chart datum) 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, five sightings were made, in each case a common seal (*Phoca vitulina*).

One detection was made prior to startup but outside the exclusion zone.

One detection was made inside the exclusion zone during operations. 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.

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. Deck forms are attached and the MMO recording spreadsheet has been provided to the client.

Date and location(s) of the plan/project	18 th June to 28 th June 2019 2 nd and 3 rd July 2019 Buncrana Pier
Name, address and qualifications of the MMO(s) on the Platform/Vessel	John O'Raw MSc, Niamh O'Raw Members IWDG JNCC MMO IWDG MMO VHF and SRC license
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). 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 or tide >2m above CD. Operations ceased at 2000 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.
Details of all marine mammal sightings recorded during monitoring watches	There were five sightings of common seals. Two sightings on 20 th June 2019 One sighting on 21 st June 2019 Two sightings on 3 rd July 2019 See attached deck sheets (5 off) for details.

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


MARINE MAMMAL RECORDING FORM - COVER PAGE

Regulatory reference number EPA S0011-03	Country Ireland	Ship/ platform name Trojan/Buncrana Pier
Client Atlantic Towage	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 18 th June 2019	End date 3 rd July 2019	


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 - MARINE MAMMAL SIGHTING RECORDS

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mmm/yy) 20JUN19	Time (Local) 0746	Time (GMT/UTC) 0646		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: Close to golf course						
Platform type & name (e.g. ship, rig, headland) Pier			Observer's name John O'Raw Niamh O'Raw			
Observer's position (Latitude/Longitude in Decimal Degrees) 55.126141 N 7.465056 W					Water depth (metres) (if available) <2M	
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 0746 Seal at golf course, moving north 0751 Seal near lifeboat berth 0811 Seal near outfall mark heading south 0819 Last sighting, heading south				Direction of travel of animals 000 150 150		
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) 150m			


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

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mmm/yy) 20JUN19	Time (Local) 1855	Time (GMT/UTC) 1755		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: Seal close in (20m) NW of pier, operator informed						
Platform type & name (e.g. ship, rig, headland) Pier			Observer's name John O'Raw Niamh O'Raw			
Observer's position (Latitude/Longitude in Decimal Degrees) 55.126141 N 7.465056 W					Water depth (metres) (if available) <4M	
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 1855 Seal spotted close in (20m) NW of pier, heading north 1904 Last sighting, well north of pier (c. 200m)				Direction of travel of animals 000		
Activity of platform/vessel Dredging delayed briefly until seal confirmed 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) 100m			


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

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mmm/yy) 21JUN19	Time (Local) 0902	Time (GMT/UTC) 0802		Sighting Record no. 3		
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: Seal spotted beside yellow outfall marker c. 200m from channel						
Platform type & name (e.g. ship, rig, headland) Pier			Observer's name John O'Raw Niamh O'Raw			
Observer's position (Latitude/Longitude in Decimal Degrees) 55.126141 N 7.465056 W					Water depth (metres) (if available) <2M	
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 0902 Surfaced, not moving 200m south of pier				Direction of travel of animals		
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) 200m		

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

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mmm/yy) 03JUL19	Time (Local) 0645	Time (GMT/UTC) 0545		Sighting Record no. 4		
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: Seal spotted beside yellow outfall marker 200m from channel						
Platform type & name (e.g. ship, rig, headland) Pier			Observer's name John O'Raw Niamh O'Raw			
Observer's position (Latitude/Longitude in Decimal Degrees) 55.126141 N 7.465056 W					Water depth (metres) (if available) <2M	
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 0645 Seal sighted 100m north of pier 0650 200m north of pier 0652 Moved east, just offshore 200m from pier 0714 Last sighting, 1000m north				Direction of travel of animals 000 000 090 000		
Activity of platform/vessel 0645 Idle 0718 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) 100m		

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

Operation/Activity (please tick)		Dredging	Drilling	Pile Driving	Blasting	Other (specify)
Date (dd/mmm/yy) 03JUL19	Time (Local) 0939	Time (GMT/UTC) 0839		Sighting Record no. 5		
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: Seal 400m south of pier						
Platform type & name (e.g. ship, rig, headland) Pier			Observer's name John O'Raw Niamh O'Raw			
Observer's position (Latitude/Longitude in Decimal Degrees) 55.126141 N 7.465056 W					Water depth (metres) (if available) <4M	
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 0939 Seal surfaced briefly 400m south of pier				Direction of travel of animals		
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) 400m		

MARINE MAMMAL RECORDING FORM - EFFORT 11/6/2019 ShayFennelly MNO

Regulatory reference number EPA Permit No 500A-03
 (e.g. DEOC no., MMS permit no., OCS lease no., etc.)

Ship/platform name Trojan shayfennelly@austrim.nm

Please record the following for all watches, even if no marine mammals are seen.

Start a new line on form if any one of these changes

Date	Visual watch or PAM	Observer's/ operator's name(s)	Time of start of watch (UTC, 24hr clock)	Time of end of watch (UTC, 24hr clock)	Start position (latitude and longitude)	Depth at start (m)	End position (latitude and longitude)	Depth at end (m)	Speed of vessel (knots)	Source activity	Wind direction	Wind force (Beaufort scale)	Sea state (like mirror)	Swell (m)	Visibility (visual watch only)	Sunglaze (visual watch only)
	v = visual watch p = PAM				Burkina pier end		Burkina pier			r = full power s = soft start r = reduced power (not soft start) n = not active			g = glassy (like mirror) s = slight (no or few white caps) o = choppy (many white caps) r = rough (big waves, foam, spray) or Beaufort sea states (0-7+)	o = low (< 2 m) m = medium (2-4 m) l = large (> 4 m)	p = poor (< 1 km) m = moderate (1-5 km) g = good (> 5 km)	n = no glare w = weak glare s = strong glare v = variable
11/6/2019	✓	ShayFennelly	08:00		55.73N 7.275W						N	3	S	0	9	N
	✓		9:00								N	3	S	0	9	N
	✓		10:00								N	26km	S	0	9	N
	✓		10:30		start dredging						N	20km	S	0	9	N
	✓		12:00		decide to 2.7km west						N	29km	S	0	9	N
	✓		13:00								N	27km	S	0	9	N
	✓		14:00								N	17km	S	0	9	N
	✓		15:00								NNE	35km	S	0	9	N
	✓		16:00								NNE	35km	S	0	9	N
	✓		17:30	end							N	26km	S	0	9	N

MARINE MAMMAL RECORDING FORM - EFFORT 12/6/2019 Shayfamily nmo.

Regulatory reference number EPA Permit No. 50011-03
 (e.g. DECC no., MMS permit no., OCS lease no., etc.)

Ship/platform name TROJAN
 4W 15-29 Rotherham NMO Shayfamily 0834658374

Please record the following for all watches, even if no marine mammals are seen. Start a new line on form if any one of these changes

Date	Visual watch or PAM v = visual watch p = PAM	Observer's/ operator's name(s)	Time of start of watch (UTC, 24hr clock)	Time of end of watch (UTC, 24hr clock)	Start position (latitude and longitude)	Depth at start (m)	End position (latitude and longitude)	Depth at end (m)	Speed of vessel (knots)	Source activity f = full power s = soft start r = reduced power (not soft start) n = not active	Wind direction	Wind force (Beaufort scale)	Sea state g = glassy (like mirror) s = slight (no or few white caps) c = choppy (many white caps) r = rough (big waves, foam, spray) or Beaufort sea states (0-7)	Swell o = low (< 2 m) m = medium (2-4 m) l = large (> 4 m)	Visibility (visual watch only) p = poor (< 1 km) m = moderate (1-5 km) g = good (> 5 km)	Sungl. (visual watch only) n = no glare w = we glare s = stro glare v = variable
12/6/2019	V	Shayfamily	08:00		55.7.34/07.27.54W		near 339m @ 210°			N	NNE	11km/hr	S	0	G	N
	✓		09:00							N	NNE	11km/hr	S	0	G	N
	✓		10:00							N	NNE	14km/hr	S	0	G	N
	✓		11:00							N	NNE	22km/hr	C	0	G	N
	✓		11:47		Start dredging south side of pier					F	NNE	28km/hr	C	0	G	N
	✓		12:00		north side											
	✓		12:35		south side 180°					F	NNE	30km/hr	C	0	G	N
	✓		13:05		south side					F	NNE	30km/hr	C	0	G	N
	✓		13:20		south side					F	NNE	32km/hr	C	0	G	N
	✓		14:02		south side					F	NNE	24km/hr	C	0	G	N
	✓		14:19		north side 210°					F	NNE	20km/hr	C	0	G	N
	✓		15:15		north side					F	N	16km/hr	C	0	G	N
	✓		16:00		north side					F	N	26km/hr	C	0	G	N
	✓		17:00		north side					F	N	8km/hr	S	0	G	N
			17:39	17:39	end											

MARINE MAMMAL RECORDING FORM - EFFORT 13/6/2019 Shay Fennelly MMS

Regulatory reference number EPA Permit No. 50011-03
(e.g. DECC no., MMS permit no., OCS lease no., etc.)

Ship/platform name Trojan mob. 0834658374

LN 10.14 1m MW 16.35 3.8m.

MMS Shay Fennelly mob. 0834658374

Please record the following for all watches, even if no marine mammals are seen.

Start a new line on form if any one of these changes

Date	Visual watch or PAM	Observer's/operator's name(s)	Time of start of watch (UTC, 24hr clock)	Time of end of watch (UTC, 24hr clock)	Start position (latitude and longitude)	Depth at start (m)	End position (latitude and longitude)	Depth at end (m)	Speed of vessel (knots)	Source activity f = full power s = soft start r = reduced power (not soft start) n = not active	Wind direction	Wind force (Beaufort scale)	Sea state g = glassy (like mirror) s = slight (no or few white caps) c = choppy (many white caps) r = rough (big waves, foam, spray) or Beaufort sea states (0-7+)	Swell o = low (< 2 m) m = medium (2-4 m) l = large (> 4 m)	Visibility (visual watch only) p = poor (< 1 km) m = moderate (1-5 km) g = good (> 5 km)	Sunglase (visual watch only) n = no glare w = wear glare s = strong glare v = variable
13/6/2019	V	Shay Fennelly	08.00		TROJAN DEPTH 75° 7' 35" S 172° 21' 20" W				0	N	N	31km/hr	C	0	G	N
			9.00						0	N	N	31km/hr	C	0	G	N
			10.00						0	N	N	27km/hr	S	0	G	N
			11.00						0	N	N	26km/hr	C	0	G	N
			12.00						0	N	N	27km/hr	S	0	G	N
			12.28		engine on.				0	F	N	20km/hr	S	0	G	N
			12.36		start dredging				0	F	N	27km/hr	S	0	G	N
			13.00		South side of pier 214°		to 300 South West of pier		0	F	N	27km/hr	S	0	G	N
			14.00		South side of pier				0	F	N	26km/hr	S	0	G	N
			15.00		East side of pier				5	F	N	23km/hr	C	0	G	N
			16.00		South side				3.5	F	NNW	24km/hr	C	0	G	N
			17.00		South side of pier		end dredging and start			F	NNW	19km/hr	C	0	G	N
			18.00		dredging to RWH moving					F	NNW	18km/hr	C	0	G	N
			19.00		dredging South side pier					F	NW	18km/hr	C	0	G	N
			19.15		end											

MARINE MAMMAL RECORDING FORM - SIGHTINGS

Regulatory reference number (e.g. DECC no., MMS permit no., OCS lease no., etc.) EPA PERMIT NO. 500003 Camp at sea		Ship/platform name TROJAN <i>dradger / Barcelona</i>		Sighting number (start at 1 for first sighting of survey) 1	Acoustic detection number (start at 500 for first detection of survey)
Date 11/16/2019 <i>Burrows pier</i> <i>dradging by Trojan</i>		Time at start of encounter (UTC, 24hr clock) 16:45		Time at end of encounter (UTC, 24hr clock) 16:47	
Were animals detected visually and/or acoustically? <input checked="" type="checkbox"/> visual <input type="checkbox"/> acoustic <input type="checkbox"/> both		How were the animals first detected? <input type="checkbox"/> visually detected by observer keeping a continuous watch <input type="checkbox"/> visually spotted incidentally by observer or someone else <input type="checkbox"/> acoustically detected by PAM <input type="checkbox"/> both visually and acoustically before operators/ observers informed each other			
Observer's/operator's name Shay Feinley		Position (latitude and longitude)		Water depth (metres) 3-4m	
Species/species group Common seal		Description (include features such as overall size; shape of head; colour and pattern; size, shape and position of dorsal fin; height, direction and shape of blow)			
Bearing to animal (when first seen or heard) 150° SE	Range to animal (when first seen or heard) (metres) 250m				
Total number 2	Number of adults (visual sightings only) 2		Number of calves (visual sightings only)		
Behaviour (visual sightings only) surfacing, rolling on surface, diving					
Direction of travel (relative to ship) <input type="checkbox"/> towards ship <input type="checkbox"/> away from ship <input type="checkbox"/> parallel to ship in same direction as ship <input type="checkbox"/> travelling in opposite direction to ship <input type="checkbox"/> crossing ahead of ship <input type="checkbox"/> variable <input checked="" type="checkbox"/> milling <input type="checkbox"/> other				Direction of travel (compass points) <input type="checkbox"/> N <input type="checkbox"/> NE <input type="checkbox"/> E <input type="checkbox"/> SE <input type="checkbox"/> S <input type="checkbox"/> SW <input type="checkbox"/> W <input type="checkbox"/> NW <input type="checkbox"/> variable	
Airgun (or other source) activity when animals first detected <input type="checkbox"/> full power <input type="checkbox"/> not firing <input type="checkbox"/> soft start <input type="checkbox"/> reduced power (other than soft start)		Airgun (or other source) activity when animals last detected <input type="checkbox"/> full power <input type="checkbox"/> not firing <input type="checkbox"/> soft start <input type="checkbox"/> reduced power (other than soft start)		Closest distance of animals from airguns (or other source) (metres) 200m	
				Time of closest approach (UTC, 24hr clock)	
				If seen during soft start give: First distance Closest distance Last distance during soft start (metres)	
What action was taken? (according to requirements of guidelines/ regulations in country concerned) <input checked="" type="checkbox"/> none required <input type="checkbox"/> delay start of firing <input type="checkbox"/> shut-down of active source <input type="checkbox"/> power-down of active source <input type="checkbox"/> power-down then shut-down of active source		Length of power-down and/ or shut-down (if relevant) (length of time until subsequent soft start, in minutes)		Estimated loss of production (if relevant) due to mitigating actions (km)	

DATA FORM FOR COASTAL/MARINE WORKS – RECORD OF MONITORING EFFORT

Location: Bundarra Platform name: T. Olsen Platform type: Platform Client: Perseus MMO(s): PATO SULLIVAN

[Signature]

Please record the following information every day (as many lines per day as you wish), even if no marine mammals are seen.

Type of operation or activity <small>Dredging, Drilling, Pile driving, Blasting, other</small>	Date <small>(dd/mm/yyyy)</small>	Marine Mammal Observer <small>(name/initials)</small>	Time you began monitoring for marine mammals <small>(GMT/UTC)</small>	Time you stopped monitoring for marine mammals <small>(GMT/UTC)</small>	Duration of monitoring watch <small>(minutes)</small>	Duration of the sound-producing operation/activity while you were monitoring for marine mammals <small>(minutes)</small>	Start Lat/Long position <small>(if static/moving)</small>	End Lat/Long position <small>(if moving)</small>	Wind direction & Beaufort wind force <small>(e.g., SW 2)</small>	Sea State (WMO) <small>(0 to 9)</small>	Swell height	Visibility
											<small>Choose from: 0 = no Swell L = 0-1 m M = 1-2 m H = 2+ m</small>	<small>Choose from: P = < 1 km M = 1-5 km G = 5-10 km H = >10 km</small>
	9/6/19	PS	2:00	3:00	60m				NW1	1	L	H
			7:00	9:35	35m				NW2	1	L	M
			9:35	10:35	60m				NE1	1	L	H
			10:35	11:35	60m				NE1	1	L	H
			11:35	12:35	60m				NE1	1	L	H
			12:35	13:35	60m				NE1	1	L	H
			13:35	14:35	60m				NE1	1	L	H
			14:35	15:35	60m				NE1	1	L	H
			15:35	15:20	45m				NE1	1	L	M
			10:30	11:30	60m				NNE3	1	L	H
			10:00	11:00	60m				NNE3	1	L	H
			11:00	12:00	60m				NW1	1	L	H
			12:00	13:00	60m				NW1	1	L	H
			13:00	14:00	60m				N1	1	L	H
	14:00	15:00	60m				N1	1	L	H		
	15:00	16:00	60m				NW1	1	L	H		
	16:00	16:15	15m				NW1	1	L	H		

DATA FORM FOR COASTAL/MARINE WORKS – RECORD OF MONITORING EFFORT

Location: Burien Platform name: T-Rex Platform type: Platform Client: Doregon Coast MMO(s): DATOSULLIVAN

[Signature]

Please record the following information every day (as many lines per day as you wish), even if no marine mammals are seen.

Type of operation or activity <small>Dredging, Drilling, Pile driving, Blasting, other</small>	Date <small>(dd/mm/yyyy)</small>	Marine Mammal Observer <small>(name/initials)</small>	Time you began monitoring for marine mammals <small>(GMT/UTC)</small>	Time you stopped monitoring for marine mammals <small>(GMT/UTC)</small>	Duration of monitoring watch <small>(minutes)</small>	Duration of the sound-producing operation/activity while you were monitoring for marine mammals <small>(minutes)</small>	Start Lat/Long position <small>(if static/moving)</small>	End Lat/Long position <small>(if moving)</small>	Wind direction & Beaufort wind force <small>(e.g., SW 2)</small>	Sea State (WMO) <small>(0 to 9)</small>	Swell height	Visibility
											<small>Choose from: 0 = no Swell L = 0-1 m M = 1-2 m H = 2+ m</small>	<small>Choose from: P = < 1 km M = 1-5 km G = 5-10 km H = >10 km</small>
	6/6/19	<i>RS</i>	6:00	7:00	60m				SW 3	1	L	H
			7:00	8:00	60m				SW 1	1	L	H
	7/6/19	<i>RS</i>	6:30	7:00	30m				SW 1	1	L	H
			7:00	8:00	60m				W 2-3	1	L	M
			8:00	9:00	60m				W 2-3	1	L	H
			9:00	10:00	60m				W 2	1	L	M
			10:00	11:00	60m				W 1	1	L	M
			11:00	12:00	60m						B	
			11:00	12:00	60m				W 1	1	L	H
			12:00	13:00	60m				W 1	1	L	H
			13:00	13:30	30m				W 1	1	L	H
			14:00	15:00	60m				W 1	1	L	H
			15:00	16:00	60m				W 1	1	L	H
	8/6/19	<i>RS</i>	7:15	8:15	60m				W 1	1	L	M
			8:15	9:15	60m				W 1	1	L	M
			9:15	10:15	60m				W 1	1	L	M
			10:15	11:15	60m				W 1	1	L	M
			11:15	12:15	60m				W 2	2	L	M
			12:15	1:15	60m				W 1	1	L	M
			1:15	2:15	60m				W 1	1	L	M
	9/6/19	<i>RS</i>	9:00	10:00	60m				SW 1	1	L	M
			10:00	11:00	60m				SW 1	1	L	M
			11:00	12:00	60m				SW 1	1	L	M
			12:00	1:00	60m				SW 1	1	L	M
			1:00	2:00	60m				SW 1	1	L	M

DATA FORM FOR COASTAL/MARINE WORKS – RECORD OF MONITORING EFFORT

Location: Boucares Platform name: Trojan Platform type: Plough Client: Davey Moore MMO(s): PATO'SULLIVAN

Please record the following information every day (as many lines per day as you wish), even if no marine mammals are seen.

Type of operation or activity <small>Dredging, Drilling, Pile driving, Blasting, other</small>	Date <small>(dd/mm/yyyy)</small>	Marine Mammal Observer <small>(name/initials)</small>	Time you began monitoring for marine mammals <small>(GMT/UTC)</small>	Time you stopped monitoring for marine mammals <small>(GMT/UTC)</small>	Duration of monitoring watch <small>(minutes)</small>	Duration of the sound-producing operation/activity while you were monitoring for marine mammals <small>(minutes)</small>	Start Lat/Long position <small>(if static/moving)</small>	End Lat/Long position <small>(if moving)</small>	Wind direction & Beaufort wind force <small>(e.g., SW 2)</small>	Sea State (WMO) <small>(0 to 9)</small>	Swell height	Visibility
											Choose from: 0 = no Swell L = 0-1 m M = 1-2 m H = 2+ m	Choose from: P = < 1 km M = 1-5 km G = 5-10 km H = >10 km
Dredging	04/06/19	PCS	0900	10:00	60		Boucares lower pier - Dump site, outer Dredge area.		NW 1	1	L	H
			1000	1100	"			NW 1	1	L	H	
			1100	1200	"			NW 1	1	L	H	
			1515	1615	"			NW 1	1	L	H	
			1715	1815	"			NW 1	1	L	H	
			1815	1915	"			NW 1	1	L	H	
			1915	2000	45 m.			NW 1	1	L	H	
	05/06/19	PCS	0635	0735	60 m				NW 2	1	L	H
			0735	0830	55 m				NW 2	1	L	H
			0830	0930	60 m				NW 2	1	L	H
			0930	1030	"				NW 1	1	L	H
			1030	1130	"				NW 1	1	L	H
			1130	1145	15 m.				NW 1	1	L	H
			1145	1200	60 m				NW 1	1	L	H
6/6/19	PCS	5:25	6:25	60 m				NW 1	1	L	H	
		6:25	7:25	60 m				NW 1	1	L	H	
		7:25	8:00	35 m				NW 1	1	L	H	
		8:00	8:35	30 m				NW 1	1	L	H	
		8:35	9:05	30 m				NW 1	1	L	H	
		9:05	9:05	60 m				NW 1	1	L	H	
		9:05	10:05	60 m				NW 1	1	L	H	
		10:05	11:05	60 m				NW 1	1	L	H	
		11:05	12:05	60 m				NW 1	1	L	H	
		12:05	12:40	35 m				NW 1	1	L	H	
		05:00	6:00	60 m				NW 1	1	L	H	