

Headquarters P.O. Box 3000 Johnstown Castle Estate County Wexford Ireland

DUMPING AT SEA PERMIT

Permit Register Number:	S0035-01
Permit Holder:	PSE Seven Heads Limited
	Mahon Industrial Estate
	Blackrock
	Cork
Location of Dumping:	The pipelines and umbilicals
	are in the Celtic Sea, between
	approximately 46km and 50km
	south of the coastline of County
-	Cork.





HEADQUARTERS JOHNSTOWN CASTLE ESTATE COUNTY WEXFORD, IRELAND PHONE: +353-53-9160600 FAX: +353-53-9160699

DUMPING AT SEA ACT 1996 AS AMENDED

DUMPING AT SEA PERMIT

Decision of the Agency, under Section 5(1) of the Dumping at Sea Act 1996 as amended

Reference Number: S0035-01

The Agency in exercise of the powers conferred on it by the Dumping at Sea Act 1996 as amended, for the reasons hereinafter set out, hereby grants this Dumping at Sea permit to PSE Seven Heads Limited, subject to conditions, as set out in the schedule attached hereto.

The permit authorises dumping at sea of a specified substance or material from an offshore installation by leaving it in situ, subject to conditions, in accordance with the Dumping at Sea Act 1996 as amended.

A copy of the Decision is attached.

GIVEN under the Seal of the Agency this 16th day of February, 2023

PRESENT when the seal of the Agency was affixed hereto:

Ray Cullinane, Authorised Person



INTRODUCTION

This introduction is not part of the permit and does not purport to be a legal interpretation of the permit.

This permit authorises the dumping at sea (leaving in situ) of a redundant gas export pipeline, in-field gas pipelines and in-field umbilicals associated with the decommissioning of the Seven Heads gas fields and facilities. The Seven Heads gas fields are in the Celtic Sea, between approximately 46 km and 50 km south of the coastline of County Cork. In total, 61km of pipelines, of either 8" or 18" in diameter will be left in situ. The pipelines are filled with seawater. In total, 61km of umbilicals will be left in situ, of either 93.2mm or 123.5mm in diameter. The umbilicals contain approximately 32m³ of residual water based hydraulic fluid (HW-540), 5m³ of residual Methanol and 3m³ of residual Monoethylene Glycol.

The permit sets out in detail the conditions under which PSE Seven Heads Limited will carry out dumping at sea.

Table of Contents

Page No

Glossary of Terms				
Decision & Reasons i	Decision & Reasons for the Decision			
Part I Schedule of Ac	tivities Permitted4			
Part II Schedule of Ad	ctivities Refused			
Part III Conditions	5			
Condition 1.	Scope			
Condition 2.	Management of the Dumping at Sea Activity			
Condition 3.	Control and Monitoring			
Condition 4.	Incident Prevention and Emergency Response7			
Condition 5.	Notification, Records and Reports			
Condition 6.	Financial Charges			
SCHEDULE A:	Limitations9			
SCHEDULE B:	Emission Limits			
SCHEDULE C:	Monitoring17			
SCHEDULE D:	Annual Environmental Report17			

Glossary of Terms

All terms in this permit should be interpreted in accordance with the definitions in the Dumping at Sea Act 1996 as amended, unless otherwise defined in the glossary.

Accident	For the purpose of this permit an accident means an unplanned event that may result in pollution.		
AER	Annual Environmental Report.		
Approval	Approval in writing.		
Annually	All or part of a period of twelve consecutive months.		
Application	The application by the permit holder for this permit.		
Chart	Any reference to a chart or chart number means a chart or chart number contained in the application, unless otherwise specified in this permit.		
Day	• Any 24 hour period.		
Documentation	Any report, record, results, data, drawing, proposal, interpretation or other document in written or electronic form which is required by this permit.		
Dumping	(a) any deliberate disposal in the maritime area (including side-cast dredging, plough dredging, water injection dredging and other such dredging techniques) of a substance or material from or in conjunction with a vessel or aircraft or offshore installation,		
	(b) any deliberate disposal in the maritime area of vessels, aircraft or offshore installations.		
Drawing	Any reference to a drawing or drawing number means a drawing or drawing number contained in the application, unless otherwise specified in this permit.		
Exclusive Economic Zone	The exclusive economic zone of the State is that portion of the sea that lies between the outer limit of the territorial sea and the outer limit of the exclusive economic zone.		
Freespan	A freespan occurs where the seabed has been eroded under a pipeline leaving a void beneath, so the pipeline is no longer supported.		
Incident	The following shall constitute an incident for the purposes of this permit:		
	(i) an emergency;		
	 (ii) any interference with shipping, fishing, recreation, mineral extraction, desalination, fish spawning and nursery habitats, fish and shellfish culture, areas of special scientific importance, areas of natural or archaeological heritage importance, biological diversity (including diversity within species, between species, and of ecosystems) and other legitimate use of the sea; 		
	(iii) Any indication that pollution has, or may have, taken place.		
Inland Waters	The internal or inland waters of the State extend to all areas which lie on the landward side of the baseline.		
Maintain	Keep in a fit state, including such regular inspection, servicing, calibration and repair as may be necessary to perform its function adequately.		

Мар	Any reference to a map or map number means a map or map number contained in the application, unless otherwise specified in this permit.			
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic.			
Permit Holder	PSE Seven Heads Limited, Mahon Industrial Estate, Blackrock, Cork.			
Pollution	The introduction by man, directly or indirectly, of substances or energy into the maritime area which results, or is likely to result, in hazards to human health, harm to living resources and marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.			
Position	Latitude and longitude coordinates in degrees and decimal minutes, based on the WGS 84 datum.			
Umbilical	A cable and/or hose which supplies required consumables to an apparatus, or electro hydraulic control cables.			
SAC	Special Area of Conservation designated under the Habitats Directive, Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.			
Solid Waste	Any persistent, manufactured or processed solid material or items discarded, disposed of or abandoned in the marine and coastal environment, as defined in the OSPAR Guidelines for the Management of Dredged Material at Sea.			
SOP	Standard operating procedure.			
SPA	Special Protection Area designated under the Birds Directive, Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.			
Standard Method	A National, European or internationally recognised procedure (e.g., I.S. EN, ISO, CEN, BS or equivalent); or an in-house documented procedure based on the above references; a procedure as detailed in the current edition of "Standard Methods for the Examination of Water and Wastewater" (prepared and published jointly by A.P.H.A., A.W.W.A. & W.E.F.), American Public Health Association, 1015 Fifteenth Street, N.W., Washington DC 20005, USA; or an alternative method as may be agreed by the Agency.			
The Agency	Environmental Protection Agency.			
The Maritime	Comprises			
Area	(i) the inland waters and territorial seas of the State, and the seabed and subsoil beneath them;			
	(ii) a designated area within the meaning of the Maritime Jurisdiction Act 2021, and			
	(iii) the exclusive economic zone of the State.			

Decision & Reasons for the Decision

The Environmental Protection Agency is satisfied, on the basis of the information available, that subject to compliance with the conditions of this permit, the dumping at sea of a specified substance or material from an offshore installation by leaving it in situ, will comply with and will not contravene any of the requirements of Section 5 of the Dumping at Sea Act 1996 as amended.

The Agency has accordingly decided to grant a permit to PSE Seven Heads Limited, subject to the conditions set out in *Part III Conditions*.

In reaching this decision the Agency has considered the documentation relating to: the application, Register Number S0035-01, and the supporting documentation received from the applicant; the comments received; the advice received from external experts; the Inspector's Report dated 19 January 2023 and has carried out an Appropriate Assessment Screening of the likely significant effects of the permitted activity on European Sites.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects is likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at Sovereign Islands SPA, Old Head of Kinsale SPA, Courtmacsherry Bay SPA, Courtmacsherry Estuary SAC, Seven Heads SPA, Clonakility Bay SPA, Clonakilty Bay SAC, Galley Head to Duneen Point SPA and Roaringwater Bay and Islands SAC.

The activity is not directly connected with or necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it can be excluded, on the basis of objective information, that the activity, individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the activity was not required, as:

- The pipelines have been filled with seawater and do not contain any discernible residual materials. The quantity of residual materials to be left within the umbilicals is small (39.774m³ in total of residual hydraulic fluid, Methanol and Monoethylene Glycol).
- Considering the effect of dilution with the surrounding seawater as well as the tidal and current movements in the area, there will be no adverse impact in terms of water quality on any European site.
- Furthermore, the materials will be released gradually from the open umbilical ends, over an extended period, and/or as the umbilicals degrade.
- The applicant modelled the impact of the instantaneous discharge of hydraulic fluid from one of the main umbilical lines, and the results were well below levels that would indicate a toxicity effect in the receiving water.
- The presence of the pipelines and umbilicals on the seabed will not cause an adverse impact on any European Site. The pipelines and umbilicals have been present on the seabed in this area for several years (since 2003).
- The pipelines and umbilicals are constructed of non-toxic and relatively inert materials (e.g. carbon steel, concrete, plastics) and their degradation is expected to take decades or centuries. Long-term pipeline and umbilical corrosion and degradation, will not have an adverse impact on any European Site.

Part I Schedule of Activities Permitted

In pursuance of the powers conferred on it by the Dumping at Sea Act 1996 as amended, the Environmental Protection Agency (the Agency), under Section 5(1) of the said Act, grants this Dumping at Sea Permit to PSE Seven Heads Limited, Mahon Industrial Estate, Blackrock, Cork. The permit authorises dumping at sea of a specified substance or material from an offshore installation by leaving it in situ, subject to conditions listed in Part III, with the reasons therefor and the associated schedules attached thereto.

Part II Schedule of Activities Refused

None of the proposed activities as set out in the licence application have been refused.

Part III Conditions

Condition 1. Scope

1.1 Statutory Obligations

This permit is for the purposes of permitting under the Dumping at Sea Act 1996 as amended, only and nothing in this permit shall be construed as negating the permit holder's statutory obligations or requirements under any other enactments or regulations.

- 1.2 The material or substance to which this permit relates shall be pipelines and umbilicals from an offshore installation as specified in *Schedule A: Limitations* of this permit.
- 1.3 For the purposes of this permit, the location of the dumping sites authorised by this permit is in that part of the maritime area outlined on Charts 1–3 of the application or that part of the maritime area specified by the coordinates in *Schedule A: Limitations* of this permit. Any reference in this permit to "dumping site" shall mean the area thus specified. The permitted dumping activity shall be carried on only within the area specified.
- 1.4 The permit holder shall carry out the permitted activity in accordance with the limitations set out in *Schedule A: Limitations* of this permit. There shall be no emissions of environmental significance.
- 1.5 Dumping at sea shall be controlled and operated as set out in the permit. All programmes required to be carried out under the terms of this permit become part of this permit.
- 1.6 No change to the dumping activity authorised by this permit shall be carried out or commenced without the prior approval of the Agency.

Reason: To clarify the scope of this permit.

Condition 2. Management of the Dumping at Sea Activity

- 2.1 The permit holder shall ensure that personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and experience as required and shall be aware of the requirements of this permit.
- 2.2 The permit holder shall ensure that a nominated, suitably qualified and experienced person is present at all times when activities covered by this permit are ongoing.
- 2.3 Documentation

The permit holder shall issue a copy of this permit to all relevant personnel whose duties relate to any condition of this permit and provide the information, instruction, training and supervision necessary to ensure compliance with the conditions of this permit.

- 2.4 Corrective Action and Preventative Action
 - 2.4.1 The permit holder shall establish, maintain and implement procedures to ensure that corrective action is taken should the specified requirements of this permit not be fulfilled. The responsibility and authority for persons initiating further investigation and corrective action in the event of a reported non-conformity with this permit shall be defined.
 - 2.4.2 Where a breach of one or more of the conditions of this permit occurs, the permit holder shall without delay take measures to restore compliance with the conditions of this permit in the shortest possible time and initiate any feasible preventative actions to prevent recurrence of the breach.
 - 2.4.3 All corrective and preventative actions shall be documented.

Reason: To make provision for management of the dumping at sea activity on a planned basis having regard to the desirability of ongoing assessment, recording and reporting of matters affecting the marine environment and other legitimate uses of the sea.

Condition 3. Control and Monitoring

- 3.1 The permit holder shall carry out such sampling, analyses, measurements, examinations maintenance and calibrations as set out below and in accordance with *Schedule C: Monitoring* of this permit.
 - 3.1.1 Analyses and measurements shall be undertaken by competent staff in accordance with documented operating procedures.
 - 3.1.2 Such procedures shall be assessed for their suitability for the test matrix and performance characteristics shall be determined.
 - 3.1.3 Such procedures shall be subject to a programme of Analytical Quality Control using control standards with evaluation of test responses.
- 3.2 The permit holder shall ensure that:
 - (i) sampling and analysis for all parameters listed in the schedules to this permit; and
 - (ii) any reference measurements for the calibration of automated measurement systems

shall be carried out by an appropriate Standard Method.

- 3.3 The frequency, methods and scope of monitoring, sampling and analyses, as set out in this permit, may be amended with the approval of the Agency following evaluation of test results.
- 3.4 The permit holder shall ensure that the most up-to-date locations for the pipelines and umbilicals are made available on Admiralty charts by contacting the Maritime Safety Policy Division of the Department of Transport via <u>marinenotices@transport.gov.ie</u>.
- 3.5 The permit holder shall submit the relevant information on the final status of the pipelines and umbilicals from the Decommissioning Close Out Report to the Agency as soon as practicable within one month from the date of agreement.
- 3.6 The permit holder shall submit to the Agency the post-decommissioning monitoring arrangements agreed with the Department of Environment, Climate and Communications within one month from the date of agreement.
- 3.7 Freespan Monitoring and Remediation
 - 3.7.1 The freespan monitoring frequency and technique shall be agreed with the Agency in accordance with *Schedule C: Monitoring* of this permit.
 - 3.7.2 A report on freespan monitoring shall be submitted to the Agency within one month of completion.
 - 3.7.3 In the event that significant freespan development is identified, the permit holder shall implement remedial works, to the satisfaction of the Agency.

Reason: To provide for the protection of the marine environment and other legitimate uses of the sea by way of monitoring of the impacts associated with the dumping at sea activities.

Condition 4. Incident Prevention and Emergency Response

4.1 Incidents

In the event of an incident the permit holder shall immediately:

- (i) identify the date, time and place of the incident;
- (ii) as soon as practical notify the Agency, in a format prescribed, and other relevant authorities;
- (iii) carry out an investigation to identify the nature, source and cause of the incident and any impact arising therefrom;
- (iv) evaluate the impact, if any, caused by the incident; and
- (v) identify and execute measures to minimise the impact and the effects thereof.
- 4.2
- The permit holder shall provide a report of the investigation into the incident to the Agency for its approval within one month of the incident occurring or as otherwise agreed by the Agency. The report shall include a proposal to:
 - (i) identify and put in place measures to avoid recurrence of the incident; and
 - (ii) identify and put in place any other appropriate remedial actions.
- 4.3 The permit holder shall, ensure that a documented Accident Prevention Procedure is in place that addresses hazards, particularly in relation to the prevention of accidents with a possible impact on the environment.
- 4.4 The permit holder shall, ensure that a documented Emergency Response Procedure is in place that addresses any emergency situation which may arise. This procedure shall include provision for minimising the effects of any emergency on the environment.

Reason: To provide for the protection of the marine environment and other legitimate uses of the sea.

Condition 5. Notification, Records and Reports

- 5.1 The permit holder shall notify the Agency by webform or by any other means as may be specified by the Agency as soon as practicable after the occurrence of any incident. The permit holder shall include as part of the notification, the date and time of the incident, summary details of the occurrence, and where available, the steps taken to minimise any impacts.
- 5.2 In the case of any incident, the permit holder shall notify, as appropriate, the Department of Transport via <u>marinenotices@transport.gov.ie</u>, the Sea Fisheries Protection Authority, Bord Iascaigh Mhara and any other relevant authorities, as soon as practicable after such an incident.
- 5.3 The permit holder shall make a record of any incident. This record shall include details of the nature, extent, and impact of, and circumstances giving rise to, the incident. The record shall include all corrective actions taken to manage the incident, and the effect on the marine environment and other users of the sea, and avoid recurrence. The permit holder shall, as soon as practicable following incident notification, submit to the Agency the incident record.
- 5.4 The permit holder shall record all complaints related to the activity. Each such record shall give details of the date and time of the complaint, the name of the complainant (if provided), and give details of the nature of the complaint. A record shall be kept of the response made and any corrective action undertaken in the case of each complaint. This record shall be made available to the Agency upon request.
- 5.5 The permit holder shall as a minimum keep the following documents together and available for inspection by the Agency:
 - (i) the permit(s) relating to the dumping at sea activity;

- (ii) the previous years' AERs for the dumping activity;
- (iii) records of all sampling, analyses, measurements, examinations, calibrations and maintenance carried out in accordance with the requirements of this permit and any previous permits dating back at least three years;
- (iv) all correspondence with the Agency;
- (v) complaints register;
- (vi) up to date drawings/plans showing the location of the dumping sites authorised by this permit;
- (vii) any elements of the permit application and associated documentation referenced in this permit.

This documentation shall be available to the Agency for inspection at all reasonable times and shall be submitted to the Agency, as required, in such a format as may be requested, including electronic submittal of the information or a summary of such information.

- 5.6 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.
- 5.7 All reports shall be certified accurate and representative by the permit holder, manager or a nominated, suitably qualified and experienced deputy.
- 5.8 The permit holder shall carry out every action required by the Agency, and arising out of such reports, proposals or submission, by such deadline as the Agency may specify. The permit holder shall not be in compliance with the requirements of this condition unless and until it has carried out every such action.

Reason: To provide for the collection and reporting of adequate information on the dumping at sea activity.

Condition 6. Financial Charges

- 6.1 Agency Charges
 - 6.1.1 The permit holder shall pay to the Agency a contribution or such sum, as the Agency from time to time determines having regard to variations in the extent of reporting, auditing, inspections, sampling and analysis or other functions carried out by the Agency, towards the cost of monitoring the activities as the Agency considers necessary for the performance of its functions under the Dumping at Sea Act 1996 as amended.
 - 6.1.2 The cost of any other tests, sampling, analysis and monitoring which the Agency may require in relation to the dumping of the substance or material the subject of this permit shall be borne by the permit holder. Furthermore, the cost of any tests, sampling, analysis and monitoring surveys carried out by an authorised officer or by or on behalf of the Agency in relation to the sampling of a substance or material the subject of this permit shall also be borne by the holder of the permit.
- 6.2 The Permit Holder shall indemnify the Agency and its authorised officers against all cost incurred by him as a result of a breach of any of the conditions of this permit.

Reason: To provide for adequate financing for monitoring to protect the marine environment and other legitimate uses of the sea.

SCHEDULE A: Limitations

A.1.1 Characteristics and Composition of Pipelines to be Dumped at Sea

Pipeline	Length (km)	Diameter (inches)	Weight (tonnes)	Material	Contents
Export pipeline from Seven Heads manifold to the former location of the Kinsale Alpha platform	35	18	18,344	Grade ISO3183-3 L360 QCS steel with 2.5mm three- layer polyethylene (3LPE) coating, concrete weight coating, and Aluminium-Zinc bracelet anodes	Seawater
In-field pipelines (A, B, D, E and F)	25.78	8	1,707	Grade ISO3183-3 L360 QCS steel with three-layer polypropylene (3LP) protective coating, and Aluminium- Zinc bracelet anodes	
Total	60.78		20,051		

	Length	Diameter	Weight	Material	Contents
	(km)	(mm)	(tonnes)	Matel Iai	(m^3)
Main umbilical	35	123.5	736	Outer Polypropylene (PP)	18.263m ³ Hydraulic
(from Seven	55	125.5	/30	rovings on bitumen	fluid (HW-540)
	1				IIulu (H w-340)
Heads manifold to				bedding Dia ting tang	4.42.4
Alpha platform)				Binding tape	4.434m ³ Methanol
				2 layers of 3.15mm steel	(MeOH)
				armour wire	
				Inner PP Rovings	2.217m ³ Monoethylene
				2 x 19mm N-	Glycol (MEG)
				Butylbenzenesulfonamide	
				(NB hose)	
				9 x 12.7mm NB hose	
				1 x 12.7mm NB hose	
				2 x 9.5mm NB hose	
				PVC filler MPS/01/27	
				Rope fillers	
				3 x 16mm ² power pairs	
				2 x 6mm ² signal pairs	
In-field umbilicals	25.78	93.2	410	Outer Polypropylene	13.452m ³ Hydraulic
				rovings on bitumen	fluid (HW-540)
				bedding	
				2 layers of 4mm steel	0.644m ³ Methanol
				armour wire	(MeOH)
				Inner PP Rovings	
				1 x 12.7mm NB hose	0.764m ³ Monoethylene
				1 x 19mm NB hose	Glycol (MEG)
				Oversheath	
				$2 \times 9.5 \text{mm}$ NB hose	
				3 x 12.7mm NB hoses	
				Rope fillers	
				$2 \times 6 \text{mm}^2$ quads	
				Binding tape	
				String fillers	
Total	60.78		1 1/4	owing milero	39.774
	00.78		1,146		55.117

A.1.2	Characteristics and	Composition of	f Umbilicals to be Dumped at Sea

A.2 Location of Dumping Sites

<u> </u>	Latitude	Longitude
1	51° 11.807' N	8° 20.052' W
2	51° 12.078' N	8° 19.706' W
3	51° 12.310' N	8° 19.373' W
4	51° 12.500' N	8° 19.101' W
5	51° 12.764' N	8° 18.724' W
6	51° 12 942' N	8° 18.467' W
7	51° 13.125' N	8° 18.206' W
8	51° 13.282' N	8° 17.982' W
9	51° 13.474' N	8° 17.706' W
10	51° 13_588' N	8° 17.544' W
11	51° 13 767' N	8° 17.287' W
12	51° 14.037' N	8° 16.900' W
13	51° 14.318' N	8° 16.499' W
14	51° 14.616' N	8° 16.019' W
15	51° 14 827' N	8° 15.642' W
16	51° 15.055' N	8° 15.224' W
17	51° 15.211' N	8° 14.939' W
18	51° 15.362' N	8° 14.663' W
19	51° 15 545' N	8° 14.325' W
20	51° 15 732' N	8° 13.983' W
21	51° 15.933' N	8° 13.614' W
22	51° 16.086' N	8° 13.331' W
23	51° 16.250' N	8° 13.030' W
24	51° 16 494' N	8° 12.581' W
25	51° 16 720' N	8° 12.166' W
26	51° 16.966' N	8° 11.712' W
27	51° 17.197' N	8° 11.285' W
28	51° 17.468' N	8° 10.785' W
29	51° 17.613' N	8° 10.520' W
30	51° 17 699' N	8° 10.361' W
31	51° 17.890' N	8° 10.009' W
32	51° 18.039' N	8° 9.735' W
33	51° 18.204' N	8° 9.429' W
34	51° 18.380' N	8° 9.108' W
35	51° 18.550' N	8° 8.848' W
36	51° 18.776' N	8° 8.639' W
37	51° 19.096' N	8° 8.505' W
38	51° 19.377' N	8° 8.429' W
39	51° 19.626' N	8° 8.356' W
40	51° 19 903' N	8° 8.178' W
41	51° 20.086' N	8° 7.961' W
42	51° 20.293' N	8° 7.550' W
43	51° 20.412' N	8° 7.082' W
44	51° 20.506' N	8° 6.523' W

18" Export Pipeline from Seven Heads to Kinsale Alpha Platform

45	51° 20.574' N	8° 6.117' W
46	51° 20.642' N	8° 5.712' W
47	51° 20.709' N	8° 5.305' W
48	51° 20.757' N	8° 5.006' W
49	51° 20.815' N	8° 4.657' W
50	51° 20.875' N	8° 4.298' W
51	51° 20.950' N	8° 3.841' W
52	51° 21.028' N	8° 3.379' W
53	51° 21:175' N	8° 2.882' W
54	51° 21.331' N	8° 2.457' W
55	51° 21.441' N	8° 2.156' W
56	51° 21 552' N	8° 1.856' W
57	51° 21.649' N	8° 1.571' W
58	51° 21 733' N	8° 1.226' W
59	51° 21.807' N	8° 0.694' W
60	51° 21 868' N	8° 0.265' W
61	51° 21 966' N	7° 59.538' W
62	51° 22.036' N	7° 59.030' W
63	51° 22.113' N	7° 58.482' W
64	51° 22,165' N	7° 58.099' W
65	51° 22.228' N	7° 57.631' W
66	51° 22.278' N	7° 57.268' W .
67	51° 22.329' N	7° 56.909' W
68	51° 22.250' N	^{7°} 56.700' W

Seven Heads 8" Pipeline A

	Latitude	Longitude
1	51° 12.302' N	8° 21.090' W
2	51° 12.273' N	8° 20.923' W
3	51° 12,192' N	8° 20.753' W
4	51° 12.111' N	8° 20.584' W
5	51° 12,027' N	8° 20.415' W
6	51° 11.945' N	8° 20.247' W
7	51° 11.862' N	
8	51° 11.807' N	8° 20.052' W

Seven Heads 8" Pipeline B

	Latitude	Longitude
1	51° 11.508' N	8° 23.703' W
2	51° 11.507' N	8° 22.887' W
3	51° 11 430' N	8° 22.040' W
4	51° 11.382' N	8° 21.189' W
5	51° 11.621' N	8° 20.438' W
6	51° 11.807' N	8° 20.052' W

	Latitude	Longitude
1	51° 10.360' N	8° 15.173' W
2	51° 10.621' N	8° 15.876' W
3	51° 10.851' N	8° 16.649' W
4	51° 11.081' N	8° 17.421' W
5	51° 11.313' N	8° 18.191' W
6	51° 11.543' N	8° 18.963' W
7	51° 11.773' N	8° 19.730' W
8	51° 11.807' N	8° 20.052' W

Seven Heads 8" Pipeline D

Seven Heads 8" Pipeline E

	Latitude	Longitude
1	51° 11.338' N	8° 15.312' W
2	51° 11.367' N	8° 16.181' W
3	51° 11.348' N	8° 16.929' W
4	51° 11.324' N	8° 17.791' W
5	51° 11.464' N	8° 18.602' W
6	51° 11.687' N	8° 19.383' W
7	51° 11.870' N	8° 20.026' W
8	51° 11.807' N	8° 20.052' W

Seven Heads 8" Pipeline F

	Latitude	Longitude	
1	51° 10 110' N	8° 25.728' W	
2	51° 10.375' N	8° 24.920' W	
3	51° 10.552' N	8° 24.113' W	
4	51° 10.734' N	8° 23.308' W	
5	51° 10.912' N	8° 22.502' W	
6	51° 11.089' N	8° 21.695' W	
7	51° 11.301' N	8° 20.916' W	
8	51° 11.682' N	8° 20.312' W	
9	51° 11.807' N	8° 20.052' W	

Umbilical from Seven Heads to Kinsale Alpha Platform

	Latitude	Longitude
1	51° 11.807' N	8° 20.052' W
2	51° 12.078' N	8° 19.706' W
3	51° 12.310' N	8° 19.373' W
4	51° 12.500' N	8° 19.101' W
5	51° 12.764' N	8° 18.724' W
6	51° 12.942' N	8° 18.467' W
7	51° 13.125' N	8° 18.206' W
8	51° 13.282' N	8° 17.982' W
9	51° 13.474' N	8° 17.706' W
10	51° 13.588' N	8° 17.544' W

11 51° 13.767 N 8° 17.287 W 12 51° 14.037 N 8° 16.900 W 13 51° 14.037 N 8° 16.900 W 14 51° 14.616 N 8° 16.019 W 15 51° 14.627 N 8° 15.642 W 16 51° 15.055 N 8° 15.224 W 17 51° 15.362 N 8° 14.663 W 19 51° 15.362 N 8° 14.663 W 19 51° 15.732 N 8° 13.983 W 21 51° 16.086 N 8° 13.301 W 22 51° 16.086 N 8° 13.030 W 23 51° 16.720 N 8° 12.581 W 24 51° 16.966 N 8° 11.712 W 25 51° 16.720 N 8° 10.785 W 26 51° 17.613 N 8° 10.785 W 27 51° 17.613 N 8° 10.785 W 28 51° 17.699 N 8° 10.009 W 31 51° 17.699 N 8° 10.009 W 32 51° 18.390 N 8° 9.108 W 34 51° 19.909 N 8° 4.29 W 35 51° 18.350 N 8° 8.439 W		<u></u>	
13 51° 14.318' N 8° 16.499' W 14 51° 14.318' N 8° 16.609' W 15 51° 14.827' N 8° 15.642' W 16 51° 15.555' N 8° 15.642' W 17 51° 15.21' N 8° 14.939' W 18 51° 15.265' N 8° 14.325' W 20 51° 15.545' N 8° 14.325' W 21 51° 15.545' N 8° 13.983' W 22 51° 16.250' N 8° 13.331' W 23 51° 16.250' N 8° 13.030' W 24 51° 16.494' N 8° 12.581' W 25 51° 16.720' N 8° 10.785' W 26 51° 16.666' N 8° 11.712' W 27 51° 17.697' N 8° 10.785' W 28 51° 17.689' N 8° 10.361' W 30 51° 17.699' N 8° 10.361' W 31 51° 17.699' N 8° 10.361' W 32 51° 18.00' N 8° 9.735' W 33 51° 18.204' N 8° 9.108' W 34 51° 18.30' N 8° 9.108' W 35 51° 18.00	11	51° 13.767' N	8° 17.287' W
14 51° 14.61° N 8° 16.019' W 15 51° 14.827' N 8° 15.224' W 16 51° 15.055' N 8° 15.224' W 17 51° 15.211' N 8° 14.939' W 18 51° 15.362' N 8° 14.663' W 19 51° 15.732' N 8° 13.614' W 21 51° 16.732' N 8° 13.614' W 22 51° 16.086' N 8° 13.331' W 23 51° 16.250' N 8° 13.030' W 24 51° 16.720' N 8° 13.030' W 25 51° 16.720' N 8° 11.712' W 26 51° 16.720' N 8° 11.285' W 27 51° 17.197' N 8° 11.285' W 28 51° 17.468' N 8° 10.785' W 29 51° 17.63' N 8° 10.785' W 29 51° 17.890' N 8° 10.361' W 31 51° 17.890' N 8° 10.361' W 32 51° 18.500' N 8° 8.639' W 33 51° 18.500' N 8° 8.639' W 34 51° 18.500' N 8° 8.639' W 35 51° 18.500' N 8° 8.639' W 36 51° 10.090' N	12		8° 16.900' W
15 51° 14.827 N 8° 15.642 W 16 51° 15.055' N 8° 15.224' W 17 51° 15.055' N 8° 14.939' W 18 51° 15.545' N 8° 14.633' W 19 51° 15.732' N 8° 13.983' W 20 51° 15.732' N 8° 13.983' W 21 51° 16.593' N 8° 13.31' W 22 51° 16.686' N 8° 13.331' W 23 51° 16.250' N 8° 13.30' W 24 51° 16.260' N 8° 12.166' W 25 51° 16.720' N 8° 12.166' W 26 51° 16.966' N 8° 11.712' W 27 51° 17.468' N 8° 10.785' W 28 51° 17.699' N 8° 10.361' W 30 51° 17.699' N 8° 10.361' W 31 51° 18.39' N 8° 9.735' W 32 51° 18.39' N 8° 9.735' W 33 51° 18.50' N 8° 8.48' W 34 51° 18.50' N 8° 8.48' W 35 51° 18.776' N 8° 8.505' W 34 51° 0.06' N	13	51° 14.318' N	8° 16.499' W
16 51° 15.055° N 8° 15.224′ W 17 51° 15.211′ N 8° 14.939′ W 18 51° 15.362′ N 8° 14.325′ W 20 51° 15.363′ N 8° 14.325′ W 20 51° 15.732′ N 8° 13.983′ W 21 51° 15.732′ N 8° 13.031′ W 22 51° 16.086′ N 8° 13.031′ W 23 51° 16.20′ N 8° 13.030′ W 24 51° 16.20′ N 8° 12.166′ W 25 51° 16.494′ N 8° 12.581′ W 26 51° 16.966′ N 8° 11.712′ W 27 51° 17.197′ N 8° 10.361′ W 28 51° 17.696′ N 8° 10.785′ W 29 51° 17.699′ N 8° 10.361′ W 30 51° 17.699′ N 8° 10.361′ W 31 51° 17.890′ N 8° 10.361′ W 32 51° 18.550′ N 8° 8.48′ W 33 51° 18.550′ N 8° 8.48′ W 36 51° 18.550′ N 8° 8.356′ W 39 51° 19.096′ N 8° 6.39′ W 31 51° 18.550′	14	51° 14.616' N	8° 16.019' W
17 51° 15.211°N 8° 14.399 W 18 51° 15.362'N 8° 14.663'W 19 51° 15.732'N 8° 13.983'W 20 51° 15.732'N 8° 13.983'W 21 51° 15.732'N 8° 13.983'W 22 51° 16.086'N 8° 13.31'W 23 51° 16.250'N 8° 12.381'W 24 51° 16.260'N 8° 12.581'W 25 51° 16.260'N 8° 12.581'W 26 51° 16.966'N 8° 11.712'W 27 51° 17.197'N 8° 10.785'W 28 51° 17.468'N 8° 10.750'W 29 51° 17.699'N 8° 10.361'W 30 51° 17.890'N 8° 10.300'W 31 51° 17.890'N 8° 10.009'W 32 51° 18.30'N 8° 9.429'W 33 51° 18.50'N 8° 8.488'W 36 51° 18.76'N 8° 8.639'W 37 51° 18.50'N 8° 8.429'W 38 51° 19.096'N 8° 8.505'W 36 51° 19.096'N 8° 5.712'W <th>15</th> <th>51° 14.827' N</th> <th>8° 15.642' W</th>	15	51° 14.827' N	8° 15.642' W
18 51° 15.362'N 8° 14.663'W 19 51° 15.732'N 8° 13.983'W 21 51° 15.732'N 8° 13.983'W 22 51° 16.086'N 8° 13.31'W 23 51° 16.250'N 8° 13.030'W 24 51° 16.720'N 8° 12.581'W 25 51° 16.720'N 8° 12.166'W 26 51° 16.720'N 8° 11.712'W 27 51° 16.720'N 8° 11.712'W 28 51° 17.468'N 8° 10.785'W 29 51° 17.699'N 8° 10.320'W 30 51° 17.699'N 8° 10.009'W 31 51° 17.699'N 8° 10.320'W 32 51° 18.039'N 8° 9.735'W 33 51° 18.204'N 8° 9.429'W 34 51° 18.50'N 8° 8.639'W 35 51° 18.50'N 8° 8.484'W 36 51° 18.776'N 8° 8.356'W 37 51° 19.096'N 8° 8.356'W 38 51° 19.077'N 8° 18.787'W 39 51° 19.026'N 8° 6.523'W 38 51° 20.757'N 8° 6.11'W 41<	16	51° 15.055' N	8° 15.224' W
19 51° 15.545' N 8° 14.325' W 20 51° 15.732' N 8° 13.983' W 21 51° 15.732' N 8° 13.983' W 22 51° 16.086' N 8° 13.331' W 23 51° 16.086' N 8° 13.331' W 23 51° 16.250' N 8° 13.331' W 24 51° 16.494' N 8° 12.581' W 25 51° 16.720' N 8° 12.166' W 26 51° 16.766' N 8° 11.712' W 27 51° 17.197' N 8° 12.166' W 28 51° 17.468' N 8° 10.785' W 29 51° 17.699' N 8° 10.520' W 30 51° 17.890' N 8° 10.361' W 31 51° 17.890' N 8° 9.429' W 34 51° 18.380' N 8° 9.108' W 35 51° 18.50' N 8° 8.848' W 36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.356' W 38 51° 19.076' N 8° 8.356' W 39 51° 19.026' N 8° 8.178' W 41 51° 20.026'	17	51° 15.211' N	8° 14.939' W
20 51° 15.732' N 8° 13.983' W 21 51° 15.732' N 8° 13.614' W 22 51° 16.086' N 8° 13.331' W 23 51° 16.250' N 8° 13.030' W 24 51° 16.494' N 8° 12.581' W 25 51° 16.720' N 8° 12.516' W 26 51° 16.966' N 8° 11.712' W 27 51° 17.197' N 8° 11.285' W 28 51° 17.613' N 8° 10.785' W 29 51° 17.613' N 8° 10.520' W 30 51° 17.639' N 8° 10.361' W 31 51° 17.639' N 8° 10.09' W 32 51° 18.039' N 8° 9.735' W 33 51° 18.20' N 8° 8.43' W 34 51° 18.380' N 8° 9.108' W 35 51° 18.50' N 8° 8.848' W 36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.356' W 38 51° 19.026' N 8° 8.356' W 39 51° 19.026' N 8° 5.750' W 38 51° 20.086' N </th <th>18</th> <th>51° 15.362' N</th> <th>8° 14.663' W</th>	18	51° 15.362' N	8° 14.663' W
21 51° 15.933' N 8° 13.614' W 22 51° 16.086' N 8° 13.331' W 23 51° 16.250' N 8° 13.030' W 24 51° 16.720' N 8° 12.166' W 25 51° 16.720' N 8° 12.166' W 26 51° 16.760' N 8° 11.712' W 27 51° 17.699' N 8° 10.785' W 28 51° 17.699' N 8° 10.0361' W 30 51° 17.699' N 8° 10.0361' W 31 51° 17.890' N 8° 10.009' W 32 51° 18.039' N 8° 9.735' W 33 51° 18.039' N 8° 9.108' W 34 51° 18.50' N 8° 8.848' W 35 51° 18.76' N 8° 8.50' W 36 51° 18.76' N 8° 8.50' W 37 51° 19.096' N 8° 8.50' W 38 51° 19.096' N 8° 8.356' W 39 51° 19.026' N 8° 8.356' W 39 51° 19.026' N 8° 5.750' W 39 51° 19.026' N 8° 5.35' W 31 51° 20.050' N 8° 5.305' W 41 51° 20.06' N 8° 5.305' W	19	51° 15.545' N	8° 14.325' W
22 51° 16.086'N 8° 13.331'W 23 51° 16.250'N 8° 13.030'W 24 51° 16.424'N 8° 12.581'W 25 51° 16.720'N 8° 12.581'W 26 51° 16.720'N 8° 12.581'W 26 51° 16.966'N 8° 11.712'W 27 51° 17.468'N 8° 10.785'W 28 51° 17.468'N 8° 10.361'W 30 51° 17.699'N 8° 10.361'W 31 51° 17.899'N 8° 10.361'W 32 51° 17.899'N 8° 10.361'W 33 51° 17.890'N 8° 10.361'W 33 51° 18.39'N 8° 9.735'W 33 51° 18.39'N 8° 9.108'W 34 51° 18.50'N 8° 8.848'W 35 51° 18.50'N 8° 8.429'W 36 51° 19.096'N 8° 8.505'W 38 51° 19.096'N 8° 8.505'W 39 51° 19.096'N 8° 8.256'W 40 51° 19.090'N 8° 8.178'W 41 51° 20.050'N 8° 6.177'W	20	51° 15.732' N	8° 13.983' W
23 51° 16.250' N 8° 13.030' W 24 51° 16.494' N 8° 12.581' W 25 51° 16.720' N 8° 12.166' W 26 51° 16.966' N 8° 11.712' W 27 51° 17.468' N 8° 10.785' W 28 51° 17.468' N 8° 10.785' W 29 51° 17.468' N 8° 10.361' W 30 51° 17.469' N 8° 10.361' W 31 51° 17.469' N 8° 10.361' W 32 51° 17.469' N 8° 10.361' W 31 51° 17.469' N 8° 10.361' W 32 51° 18.30' N 8° 9.735' W 33 51° 18.30' N 8° 9.108' W 34 51° 18.30' N 8° 9.108' W 35 51° 18.30' N 8° 8.429' W 36 51° 19.096' N 8° 8.505' W 38 51° 19.096' N 8° 8.356' W 39 51° 19.096' N 8° 8.356' W 40 51° 19.006' N 8° 7.961' W 41 51° 20.086' N 8° 7.082' W 42 51° 20.67' N <th>21</th> <th>51° 15.933' N</th> <th>8° 13.614' W</th>	21	51° 15.933' N	8° 13.614' W
24 51° 16.494' N 8° 12.581' W 25 51° 16.720' N 8° 12.166' W 26 51° 16.966' N 8° 11.712' W 27 51° 17.468' N 8° 10.785' W 28 51° 17.613' N 8° 10.20' W 30 51° 17.699' N 8° 10.30' W 31 51° 17.699' N 8° 10.30' W 32 51° 18.039' N 8° 9.735' W 33 51° 18.039' N 8° 9.429' W 34 51° 18.204' N 8° 9.429' W 34 51° 18.50' N 8° 8.639' W 35 51° 18.76' N 8° 8.639' W 36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.505' W 38 51° 19.377' N 8° 8.429' W 39 51° 19.096' N 8° 8.505' W 40 51° 19.096' N 8° 6.523' W 41 51° 20.086' N 8° 7.550' W 42 51° 20.293' N 8° 7.550' W 43 51° 20.574' N 8° 6.117' W 44 51° 20.642' N 8° 5.712' W 45 51° 20.705' N 8° 4.657' W </th <th>22</th> <th>51° 16.086' N</th> <th>8° 13.331' W</th>	22	51° 16.086' N	8° 13.331' W
25 51° 16.720' N 8° 12.166' W 26 51° 16.966' N 8° 11.712' W 27 51° 17.197' N 8° 11.285' W 28 51° 17.468' N 8° 10.785' W 29 51° 17.699' N 8° 10.361' W 30 51° 17.699' N 8° 10.009' W 31 51° 17.890' N 8° 10.009' W 32 51° 18.039' N 8° 9.429' W 34 51° 18.204' N 8° 9.429' W 34 51° 18.380' N 8° 9.108' W 35 51° 18.550' N 8° 8.848' W 36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.356' W 38 51° 19.626' N 8° 8.356' W 40 51° 19.096' N 8° 8.178' W 41 51° 20.086' N 8° 7.961' W 42 51° 20.293' N 8° 7.550' W 43 51° 20.293' N 8° 6.117' W 44 51° 20.642' N 8° 6.523' W 43 51° 20.642' N 8° 6.117' W 44 51° 20.709' N 8° 5.305' W 45 51° 20.709' N 8° 5.305	23	51° 16.250' N	8° 13.030' W
26 51° 16.966' N 8° 11.712' W 27 51° 17.197' N 8° 11.712' W 28 51° 17.468' N 8° 10.785' W 29 51° 17.613' N 8° 10.785' W 29 51° 17.699' N 8° 10.361' W 31 51° 17.699' N 8° 10.009' W 32 51° 18.039' N 8° 9.735' W 33 51° 18.204' N 8° 9.429' W 34 51° 18.30' N 8° 9.108' W 35 51° 18.30' N 8° 9.108' W 36 51° 18.50' N 8° 8.48' W 36 51° 18.50' N 8° 8.639' W 37 51° 19.096' N 8° 8.505' W 38 51° 19.096' N 8° 8.505' W 39 51° 19.096' N 8° 8.505' W 34 51° 20.093' N 8° 7.561' W 41 51° 20.293' N 8° 7.550' W 38 51° 20.293' N 8° 7.550' W 43 51° 20.412' N 8° 5.005' W 44 51° 20.412' N 8° 5.117' W 45 51° 20.757' N	24	51° 16.494' N	8° 12.581' W
27 51° 17.197 N 8° 11.285 W 28 51° 17.468' N 8° 10.785' W 29 51° 17.613' N 8° 10.520' W 30 51° 17.699' N 8° 10.361' W 31 51° 17.890' N 8° 10.009' W 32 51° 17.890' N 8° 10.009' W 33 51° 18.039' N 8° 9.735' W 33 51° 18.204' N 8° 9.429' W 34 51° 18.380' N 8° 9.108' W 35 51° 18.380' N 8° 9.108' W 36 51° 18.550' N 8° 8.848' W 36 51° 18.550' N 8° 8.639' W 37 51° 19.096' N 8° 8.505' W 38 51° 19.377' N 8° 8.429' W 39 51° 19.026' N 8° 8.356' W 40 51° 20.293' N 8° 8.756' W 41 51° 20.412' N 8° 6.523' W 42 51° 20.412' N 8° 6.117' W 43 51° 20.757' N 8° 5.305' W 44 51° 20.757' N 8° 5.305' W 45 51° 20.757' N	25	51° 16.720' N	8° 12.166' W
27 51° 17.197'N 8° 11.285'W 28 51° 17.468'N 8° 10.785'W 29 51° 17.613'N 8° 10.520'W 30 51° 17.699'N 8° 10.361'W 31 51° 17.890'N 8° 10.009'W 32 51° 18.039'N 8° 9.735'W 33 51° 18.204'N 8° 9.429'W 34 51° 18.50'N 8° 8.48'W 36 51° 18.50'N 8° 8.48'W 36 51° 18.776'N 8° 8.639'W 37 51° 19.096'N 8° 8.505'W 38 51° 19.377'N 8° 8.429'W 39 51° 19.096'N 8° 8.356'W 40 51° 19.096'N 8° 8.356'W 41 51° 20.029'N 8° 7.961'W 42 51° 20.293'N 8° 7.550'W 43 51° 20.412'N 8° 7.082'W 44 51° 20.642'N 8° 5.305'W 45 51° 20.757'N 8° 5.305'W 46 51° 20.757'N 8° 5.305'W 47 51° 20.815'N 8° 4.29'W 48 51° 20.757'N 8° 3.379'W 51° 21.028'N<	26	51° 16.966' N	8° 11.712' W
29 51° 17.613'N 8° 10.520'W 30 51° 17.699'N 8° 10.361'W 31 51° 17.890'N 8° 10.009'W 32 51° 18.039'N 8° 9.735'W 33 51° 18.039'N 8° 9.735'W 34 51° 18.039'N 8° 9.735'W 35 51° 18.039'N 8° 9.429'W 34 51° 18.380'N 8° 9.108'W 35 51° 18.50'N 8° 8.639'W 36 51° 18.776'N 8° 8.639'W 37 51° 19.096'N 8° 8.505'W 38 51° 19.377'N 8° 8.429'W 39 51° 19.096'N 8° 8.356'W 40 51° 19.096'N 8° 8.356'W 40 51° 19.093'N 8° 8.178'W 41 51° 20.086'N 8° 7.550'W 42 51° 20.293'N 8° 7.550'W 43 51° 20.412'N 8° 6.117'W 44 51° 20.574'N 8° 6.117'W 45 51° 20.642'N 8° 5.305'W 48 51° 20.709'N 8° 5.305'W <	27	51° 17.197' N	
30 51° 17.699' N 8° 10.361' W 31 51° 17.890' N 8° 10.009' W 32 51° 18.039' N 8° 9.735' W 33 51° 18.204' N 8° 9.429' W 34 51° 18.380' N 8° 9.108' W 35 51° 18.550' N 8° 8.48' W 36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.639' W 38 51° 19.096' N 8° 8.429' W 39 51° 19.096' N 8° 8.505' W 38 51° 19.096' N 8° 8.429' W 39 51° 19.096' N 8° 8.356' W 40 51° 19.093' N 8° 8.178' W 41 51° 20.086' N 8° 7.961' W 42 51° 20.412' N 8° 7.082' W 43 51° 20.506' N 8° 6.523' W 44 51° 20.574' N 8° 6.117' W 46 51° 20.757' N 8° 5.006' W 47 51° 20.757' N 8° 5.006' W 48 51° 20.875' N 8° 4.298' W 51 51° 20.875' N	28	51° 17.468' N	8° 10.785' W
31 51° 17.890' N 8° 10.009' W 32 51° 18.039' N 8° 9.735' W 33 51° 18.204' N 8° 9.429' W 34 51° 18.380' N 8° 9.108' W 35 51° 18.550' N 8° 8.848' W 36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.505' W 38 51° 19.377' N 8° 8.429' W 39 51° 19.626' N 8° 8.356' W 40 51° 19.090' N 8° 8.356' W 41 51° 20.086' N 8° 7.961' W 42 51° 20.086' N 8° 7.082' W 43 51° 20.412' N 8° 5.705' W 44 51° 20.506' N 8° 6.523' W 45 51° 20.574' N 8° 6.117' W 46 51° 20.672' N 8° 5.305' W 47 51° 20.574' N 8° 5.006' W 48 51° 20.757' N 8° 5.006' W 49 51° 20.875' N 8° 4.298' W 51 51° 20.875' N 8° 4.298' W 51 51° 20.875' N 8° 3.379' W 52 51° 21.028' N 8° 3.379' W <th>29</th> <th>51° 17.613' N</th> <th>8° 10.520' W</th>	29	51° 17.613' N	8° 10.520' W
32 51° 18.039' N 8° 9.735' W 33 51° 18.204' N 8° 9.429' W 34 51° 18.380' N 8° 9.108' W 35 51° 18.550' N 8° 8.848' W 36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.639' W 38 51° 19.77' N 8° 8.429' W 39 51° 19.626' N 8° 8.356' W 40 51° 19.903' N 8° 8.178' W 41 51° 20.293' N 8° 7.961' W 42 51° 20.293' N 8° 7.082' W 43 51° 20.506' N 8° 6.523' W 44 51° 20.506' N 8° 5.006' W 45 51° 20.574' N 8° 6.117' W 46 51° 20.757' N 8° 5.006' W 47 51° 20.757' N 8° 5.006' W 48 51° 20.757' N 8° 4.298' W 51 51° 20.815' N 8° 3.379' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.028' N 8° 3.379' W 54 51° 21.31' N 8° 2.457' W 55 51° 21.441' N 8° 1.56' W	30	51° 17.699' N	8° 10.361' W
32 51° 18.039' N 8° 9.735' W 33 51° 18.204' N 8° 9.429' W 34 51° 18.380' N 8° 9.108' W 35 51° 18.550' N 8° 8.848' W 36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.639' W 38 51° 19.77' N 8° 8.429' W 39 51° 19.626' N 8° 8.356' W 40 51° 19.903' N 8° 8.178' W 41 51° 20.086' N 8° 7.961' W 42 51° 20.293' N 8° 7.082' W 43 51° 20.506' N 8° 6.523' W 44 51° 20.506' N 8° 5.702' W 45 51° 20.574' N 8° 6.117' W 46 51° 20.757' N 8° 5.006' W 47 51° 20.757' N 8° 5.006' W 48 51° 20.757' N 8° 3.379' W 51 51° 20.815' N 8° 3.379' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.31' N 8° 2.457' W 54 51° 21.31' N 8° 2.457' W 55 51° 21.441' N 8° 1.56' W	31	51° 17.890' N	
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35 51° 18.550' N 8° 8.848' W 36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.639' W 38 51° 19.377' N 8° 8.429' W 39 51° 19.096' N 8° 8.429' W 39 51° 19.03' N 8° 8.429' W 40 51° 19.03' N 8° 8.356' W 41 51° 20.086' N 8° 7.961' W 42 51° 20.293' N 8° 7.550' W 43 51° 20.412' N 8° 7.082' W 44 51° 20.64' N 8° 6.523' W 44 51° 20.574' N 8° 6.117' W 45 51° 20.574' N 8° 5.305' W 45 51° 20.757' N 8° 5.006' W 47 51° 20.757' N 8° 4.657' W 50 51° 20.815' N 8° 4.4298' W 51 51° 20.950' N 8° 3.379' W 53 51° 21.028' N 8° 3.379' W 54 51° 21.331' N 8° 2.457' W 55 51° 21.441' N 8° 1.56' W 56 51° 21.649' N	33	51° 18.204' N	8° 9.429' W
36 51° 18.776' N 8° 8.639' W 37 51° 19.096' N 8° 8.505' W 38 51° 19.377' N 8° 8.429' W 39 51° 19.626' N 8° 8.356' W 40 51° 19.003' N 8° 8.178' W 41 51° 20.086' N 8° 7.961' W 42 51° 20.293' N 8° 7.550' W 43 51° 20.412' N 8° 6.523' W 44 51° 20.506' N 8° 6.523' W 45 51° 20.574' N 8° 6.117' W 46 51° 20.709' N 8° 5.305' W 47 51° 20.709' N 8° 5.305' W 48 51° 20.757' N 8° 5.006' W 49 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 4.298' W 51 51° 21.028' N 8° 3.379' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.31' N 8° 2.457' W 54 51° 21.31' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.649' N	34	51° 18.380' N	8° 9.108' W
37 51° 19.096' N 8° 8.505' W 38 51° 19.377' N 8° 8.505' W 39 51° 19.626' N 8° 8.356' W 40 51° 19.903' N 8° 8.178' W 41 51° 20.086' N 8° 7.961' W 42 51° 20.293' N 8° 7.550' W 43 51° 20.412' N 8° 6.523' W 44 51° 20.506' N 8° 6.523' W 45 51° 20.574' N 8° 6.117' W 46 51° 20.642' N 8° 5.712' W 47 51° 20.709' N 8° 5.305' W 48 51° 20.757' N 8° 5.006' W 49 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 3.841' W 51 51° 20.950' N 8° 3.841' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.31' N 8° 2.457' W 54 51° 21.31' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	35	51° 18.550' N	8° 8.848' W
37 51° 19.096' N 8° 8.505' W 38 51° 19.377' N 8° 8.429' W 39 51° 19.626' N 8° 8.356' W 40 51° 19.903' N 8° 8.178' W 41 51° 20.086' N 8° 7.961' W 42 51° 20.293' N 8° 7.550' W 43 51° 20.412' N 8° 6.523' W 44 51° 20.506' N 8° 6.523' W 45 51° 20.574' N 8° 5.712' W 46 51° 20.642' N 8° 5.305' W 47 51° 20.709' N 8° 5.305' W 48 51° 20.757' N 8° 5.006' W 49 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 4.298' W 51 51° 20.875' N 8° 3.379' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.31' N 8° 2.457' W 54 51° 21.31' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.649' N 8° 1.856' W 57 51° 21.649' N 8° 1.226' W	36	51° 18.776' N	
38 51° 19.377' N 8° 8.429' W 39 51° 19.626' N 8° 8.356' W 40 51° 19.903' N 8° 8.178' W 41 51° 20.086' N 8° 7.961' W 42 51° 20.293' N 8° 7.550' W 43 51° 20.412' N 8° 7.082' W 44 51° 20.506' N 8° 6.523' W 45 51° 20.574' N 8° 6.117' W 46 51° 20.757' N 8° 5.305' W 47 51° 20.757' N 8° 5.006' W 48 51° 20.757' N 8° 4.657' W 50 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 4.298' W 51 51° 20.950' N 8° 3.379' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.31' N 8° 2.457' W 54 51° 21.331' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	37	51° 19.096' N	
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41 51° 20.086' N 8° 7.961' W 42 51° 20.293' N 8° 7.550' W 43 51° 20.412' N 8° 7.082' W 44 51° 20.506' N 8° 6.523' W 45 51° 20.642' N 8° 5.712' W 46 51° 20.709' N 8° 5.305' W 48 51° 20.777' N 8° 5.006' W 49 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 4.657' W 51 51° 20.950' N 8° 3.841' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.331' N 8° 2.457' W 54 51° 21.552' N 8° 1.856' W 55 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	39	51° 19.626' N	8° 8.356' W
42 51° 20.293' N 8° 7.550' W 43 51° 20.412' N 8° 7.082' W 44 51° 20.506' N 8° 6.523' W 45 51° 20.574' N 8° 6.117' W 46 51° 20.642' N 8° 5.712' W 47 51° 20.757' N 8° 5.006' W 48 51° 20.757' N 8° 5.006' W 49 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 4.298' W 51 51° 20.950' N 8° 3.379' W 52 51° 21.028' N 8° 2.882' W 53 51° 21.331' N 8° 2.457' W 54 51° 21.552' N 8° 1.856' W 57 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	40	51° 19.903' N	8° 8.178' W
42 51° 20.293' N 8° 7.550' W 43 51° 20.412' N 8° 7.082' W 44 51° 20.506' N 8° 6.523' W 45 51° 20.574' N 8° 6.117' W 46 51° 20.642' N 8° 5.712' W 47 51° 20.709' N 8° 5.305' W 48 51° 20.757' N 8° 5.006' W 49 51° 20.815' N 8° 4.657' W 50 51° 20.815' N 8° 4.298' W 51 51° 20.950' N 8° 3.379' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.331' N 8° 2.457' W 54 51° 21.552' N 8° 1.856' W 55 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	41	51° 20.086' N	8° 7.961' W
44 51° 20.506' N 8° 6.523' W 45 51° 20.574' N 8° 6.117' W 46 51° 20.642' N 8° 5.712' W 47 51° 20.709' N 8° 5.305' W 48 51° 20.757' N 8° 5.006' W 49 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 4.298' W 51 51° 20.950' N 8° 3.841' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.331' N 8° 2.457' W 54 51° 21.552' N 8° 1.856' W 55 51° 21.552' N 8° 1.571' W 56 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	42	51° 20.293' N	
45 51° 20.574' N 8° 6.117' W 46 51° 20.642' N 8° 5.712' W 47 51° 20.709' N 8° 5.305' W 48 51° 20.757' N 8° 5.006' W 49 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 4.298' W 51 51° 20.950' N 8° 3.841' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.331' N 8° 2.457' W 54 51° 21.552' N 8° 1.856' W 55 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	43	51° 20.412' N	8° 7.082' W
46 51° 20.642' N 8° 5.712' W 47 51° 20.709' N 8° 5.305' W 48 51° 20.757' N 8° 5.006' W 49 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 4.298' W 51 51° 20.950' N 8° 3.841' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.175' N 8° 2.882' W 54 51° 21.331' N 8° 2.156' W 55 51° 21.552' N 8° 1.856' W 56 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	44	51° 20.506' N	8° 6.523' W
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4751° 20.709' N8° 5.305' W4851° 20.757' N8° 5.006' W4951° 20.815' N8° 4.657' W5051° 20.875' N8° 4.298' W5151° 20.950' N8° 3.841' W5251° 21.028' N8° 3.379' W5351° 21.175' N8° 2.882' W5451° 21.331' N8° 2.457' W5551° 21.441' N8° 2.156' W5651° 21.552' N8° 1.856' W5751° 21.649' N8° 1.571' W5851° 21.733' N8° 1.226' W	46	51° 20.642' N	1 1
49 51° 20.815' N 8° 4.657' W 50 51° 20.875' N 8° 4.298' W 51 51° 20.950' N 8° 3.841' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.175' N 8° 2.882' W 54 51° 21.331' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.552' N 8° 1.856' W 57 51° 21.733' N 8° 1.226' W	47	51° 20.709' N	
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51 51° 20.950' N 8° 3.841' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.175' N 8° 2.882' W 54 51° 21.331' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.552' N 8° 1.856' W 57 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	49	51° 20.815' N	8° 4.657' W
51 51° 20.950' N 8° 3.841' W 52 51° 21.028' N 8° 3.379' W 53 51° 21.175' N 8° 2.882' W 54 51° 21.331' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.552' N 8° 1.856' W 57 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	50	51° 20.875' N	8° 4.298' W
53 51° 21.175' N 8° 2.882' W 54 51° 21.331' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.552' N 8° 1.856' W 57 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	51	51° 20.950' N	1
54 51° 21.331' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.552' N 8° 1.856' W 57 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	52	51° 21.028' N	8° 3.379' W
54 51° 21.331' N 8° 2.457' W 55 51° 21.441' N 8° 2.156' W 56 51° 21.552' N 8° 1.856' W 57 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	53	51° 21.175' N	
55 51° 21.441' N 8° 2.156' W 56 51° 21.552' N 8° 1.856' W 57 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	54	51° 21.331' N	1
56 51° 21.552' N 8° 1.856' W 57 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	55		
57 51° 21.649' N 8° 1.571' W 58 51° 21.733' N 8° 1.226' W	56	51° 21.552' N	
58 51° 21.733' N 8° 1.226' W	57	•	
	58	51° 21.733' N	
	59	51° 21.807' N	8° 0.694' W

60	51° 21.868' N	8° 0.265' W
61	51° 21.966' N	7° 59.538' W
62	51° 22.036' N	7° 59.030' W
63	51° 22.113' N	7° 58.482' W
64	51° 22.165' N	7° 58.099' W
65	51° 22.228' N	7° 57.631' W
66	51° 22.278' N	7° 57.268' W
67	51° 22.329' N	7° 56.909' W
68	51° 22.250' N	7° 56.700' W

Seven Heads Umbilical (alongside Pipeline A)

	Latitude	Longitude
1	51° 12.302' N	8° 21.090' W
2	51° 12.273' N	8° 20.923' W
3	51° 12,192' N	8° 20.753' W
4	51° 12.111' N	8° 20.584' W
5	51° 12.027' N	8° 20.415' W
6	51° 11 945' N	8° 20.247' W
7	51° 11.862' N	
8	51° 11.807' N	8° 20.052' W

Seven Heads Umbilical (alongside Pipeline B)

	Latitude	Longitude
1	5 1° 11.508' N	8° 23.703' W
2	51° 11.507' N	8° 22.887' W
3	51° 11.430' N	8° 22.040' W
4	51° 11.382' N	8° 21.189' W
5	51° 11.621' N	8° 20.438' W
6	51° 11.807' N	8° 20.052' W

Seven Heads Umbilical (alongside Pipeline D)

	Latitude	Longitude
1	51° 10.360' N	8° 15.173' W
2	51° 10.621' N	8° 15.876' W
3	51° 10.851' N	8° 16.649' W
4	51° 11.081' N	8° 17.421' W
5	51° 11.313' N	8° 18.191' W
6	51° 11.543' N	8° 18.963' W
7	51° 11.773' N	8° 19.730' W
8	51° 11.807' N	8° 20.052' W

	Latitude	Longitude
1	51° 11.338' N	8° 15.312' W
2	51° 11.367' N	8° 16.181' W
3	51° 11.348' N	8° 16.929' W
4	51° 11.324' N	8° 17.791' W
5	51° 11.464' N	8° 18.602' W
6	51° 11.687' N	8° 19.383' W
7	51° 11.870' N	8° 20.026' W
8	51° 11.807' N	8° 20.052' W

Seven Heads Umbilical (alongside Pipeline E)

Seven Heads Umbilical (alongside Pipeline F)

	Latitude	Longitude
1	51° 10.110' N	8° 25.728' W
2	51° 10.375' N	8° 24.920' W
3	51° 10 552' N	8° 24.113' W
4	51° 10.734' N	8° 23.308' W
5	51° 10.912' N	8° 22.502' W
6	51° 11.089' N	8° 21.695' W
7	51° 11.301' N	8° 20.916' W
8	51° 11.682' N	8° 20.312' W
9	51° 11.807' N	8° 20.052' W



SCHEDULE B: Emission Limits

There shall be no emissions of environmental significance.

SCHEDULE C: Monitoring

C.1 Monitoring at Dumping Sites

Parameters	Monitoring Frequency/Time	Monitoring Locations	Analysis Method/Technique
Freespans	To be agreed with the Agency	Dumping Sites	To be agreed with the Agency in advance of monitoring

SCHEDULE D: Annual Environmental Report

Annual Environmental Report Content Note 1

Reported incidents summary.

Complaints summary.

Monitoring and Remediation Summary.

Any other items specified by the Agency.

Note 1: Content may be revised subject to the approval of the Agency.

Scaled by the seal of the Agency on this the 16th day of February 2023.

PRESENT when the seal of the Agency Was affixed hereto:

N

Ray Cullinane, Authorised Person