

## 2 Seven Heads DAS Application form and Attachments

This is a draft document and is subject to revision



# Dumping at Sea Permit Application Form

**EPA Ref. N°:**  
(Office use only)

**Environmental Protection Agency**

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**Tracking Amendments to Draft Application Form**

<b>Version No.</b>	<b>Date</b>	<b>Amendment since previous version</b>	<b>Reason</b>
V.1	07/09/2010	N/A	
V.2	08/11/2012	Amendments to Sections A.2, A.5, A.6, A.8, B, C, D, E, F and G.	To accurately reflect the requirements of the Habitats Regulations 2011 (S.I. No. 477 of 2011), the Dumping at Sea (Fees) Regulations 2012 (S.I. No. 270 of 2012), a new Excel form for submission of sediment chemistry results and various other formatting changes.
V.3	01/01/2014	Amendments to Sections A.4, A.7, B.2, C.1, D, E, F.1 and H.	To reflect changes to the citation of the Dumping at Sea Acts, the repeal of the Salmonid and Shellfish Regulations, the requirement for Marine Mammal Risk Assessment (MMRA) and various other formatting changes.
V.4	10/11/2015	Amendments to Section B.	To correct the numbering in section B.
V.5	26/07/2018	Amendments to Sections A, C, D, E, F, H & Annex 1.	To update legislative citations, include requirement for MMRA pre-consultation with NPWS (Section F.1), plus various other minor formatting changes.
V.6	16/05/2019	Amendment to Section F.1 and addition of new Annex 3 (NMS Forms 1 & 2).	To update requirements in relation to underwater archaeological impact assessment.
V.7	20/04/2020	Amendment to Table B.1 (ANNEX I).	To include reference to updated guidelines by the Marine Institute on the assessment of dredged material in Irish waters.
V.8	07/12/2020	Minor clerical updates.	To update relevant government department names, replace EIS with EIAR and other minor changes.

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## *Dumping at Sea Permit Application Form*

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## **ABOUT THIS APPLICATION FORM**

This form is for the purpose of making an application for a Dumping at Sea permit under the Dumping at Sea Act 1996 as amended.

The application form **must** be completed in accordance with the instructions and guidance provided in the *Dumping at Sea Permit Application Guidance Note*. The guidance note gives an overview of Dumping at Sea permitting, outlines the permit application process (including the number of copies required) and specifies the information to be submitted as part of the application. The guidance note and application form are available to download from the Licensing page of the EPA's website at [www.epa.ie](http://www.epa.ie).

A valid application for a Dumping at Sea permit must, as a minimum, contain the information set out in the First Schedule to the Dumping at Sea Act 1996 as amended. This application form is designed to set out the relevant questions in a structured manner and not necessarily in the order presented in the First Schedule. In order to help ensure a legally valid application in respect of these requirements, please complete the checklist provided in Annex 2.

This application form does not purport to be, and should not be considered, a legal interpretation of the provisions and requirements of the Dumping at Sea Act 1996 as amended. While every effort has been made to ensure the accuracy of the material contained in the application form, the EPA assumes no responsibility and gives no guarantee or warranty concerning the accuracy, completeness or up-to-date nature of the information provided herein and does not accept any liability whatsoever arising from any errors or omissions.

Should there be any contradiction between the informational requirements set out in the application form and any clarifying explanation contained in the accompanying guidance note, then the requirements in this application form shall take precedence.

## PROCEDURES

The procedure for making and processing of applications for Dumping at Sea permits is summarised below.

Within 21 days after the submission of an application to the Agency the applicant must publish in a newspaper circulating in the area, a notice of the application, in accordance with Section 5A of the Dumping at Sea Act 1996 as amended. Following publication of the aforementioned notice, any persons who wish to do so may make a submission or comment on the permit application. The permit application and all submissions by third parties shall be put on public display in electronic format on the EPA website and be open to inspection by any person, as soon as reasonably possible by the Agency.

An application for a permit must be submitted on the appropriate form (available from the Agency) with the correct fee and should contain relevant supporting documentation as attachments. The application should be based on responses to the information requested in the form and include supporting written text and the appropriate use of tables and drawings. Where multiple loading or dumping sites are proposed in a single application, a system of unique reference numbers should be used to denote each loading and dumping site. These should be simple, logical, and traceable throughout the application.

The application form is divided into a number of sections of related information. The purpose of these divisions is to facilitate both the applicant and the Agency in the provision of the information and in its assessment. **Please adhere to the format as set out in the application form and clearly number each section and associated attachments accordingly.** Attachments should be clearly numbered, titled and paginated and must contain the required information as set out in the application form. Additional attachments may be included to supply any further information supporting the application. Any references made to publications should be supported by a bibliography.

**All questions must be answered. Where information is requested in the application form which is not relevant to the particular application, the words "not applicable" should be clearly written on the form. The use of abbreviations (e.g. N.A.) or dashes should be avoided.**

Additional information may need to be submitted beyond that explicitly requested on this form. The Agency may request further information if it considers that its provision is pertinent to the assessment of the application. Advice should be sought from the Agency where there is doubt about the type of information required or the level of detail.

Applicants should be aware that disposing of a substance or material at sea without a permit, or contravening the conditions of a Dumping at Sea permit, are offences under the Dumping at Sea Act 1996 as amended. Offenders are liable upon conviction to a fine or imprisonment or both.



*Note: Drawings and Charts: The following guidelines are included to assist applicants:*

- *All drawings submitted should be titled and dated.*
- *All drawings should have a unique reference number and should be signed by a clearly identifiable person.*
- *All drawings should indicate a scale and the direction of north.*
- *All drawings should, generally, be to a scale of between 1:20 to 1:500, depending upon the degree of detail needed to be shown. Drawings delineating the loading boundary can be to a smaller scale of between 1:1000 to 1:10560, but must clearly and accurately present the required level of detail. All drawings should be A3 or less and of an appropriate scale such that they are clearly legible.*
- *The applicant should provide legends on all drawings and maps as appropriate.*
- *In exceptional circumstances, where A3 is considered inadequate, a larger size may be requested by the Agency.*

A signed original and 1 additional hardcopy of the application and accompanying documents/particulars in hardcopy format plus 2 copies of all files in electronic searchable PDF format on CD-Rom (OCR'd) or other format agreeable to the Agency shall be submitted to the headquarters of the Agency.

**It should be noted that it will not be possible to process or determine the application until the required documents have been provided in sufficient detail and to a satisfactory standard.**

## SECTION A: GENERAL

Advice on completing this section is provided in the "Application Guidance Note".

### A.1 Applicant's Details

#### Name and Address for Correspondence

Only application documentation submitted by the applicant and by the nominated person will be deemed to have come from the applicant.

<b>Company Name:</b>	PSE Seven Heads Limited**
<b>C.R.O.<sup>a</sup> No.:</b>	408490
<b>Address:</b>	Mahon Industrial Estate
	Blackrock
	Cork
	T12 PW92
<b>Tel:</b>	353 (0)21 4357301
<b>Fax:</b>	353 (0)21 4356209
<b>e-mail:</b>	

#### Nominated Contact Person

<b>Name*:</b>	M.V. Murray, Head of Engineering & Projects
<b>Company Name:</b>	As above
<b>Address:</b>	
<b>Tel:</b>	
<b>Fax:</b>	
<b>e-mail:</b>	mvmurray@kinsale-energy.ie

<sup>a</sup> Company Registration Office.

\* This should be the name of a person nominated by the applicant for the purposes of the application. This person may be a company employee or a suitably qualified external consultant.

\*\*PSE Seven Heads Limited is referred to in this application as 'Kinsale Energy'.

### A.2 Planning Authority and/or Public Authority

Planning Permission relating to the loading works which is the subject of this application: (tick as appropriate)

<b><i>has been obtained</i></b>	<input type="checkbox"/>	<b><i>is being processed</i></b>	<input type="checkbox"/>
<b><i>is not yet applied for</i></b>	<input type="checkbox"/>	<b><i>is not required</i></b>	<input checked="" type="checkbox"/>

<b>Local Authority Planning File Reference No.:</b>	Not applicable
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The Seven Heads gas field facilities are located entirely on the Continental Shelf. Planning permission is not required for development on the Continental Shelf.

**Attachment A.2** should contain, where appropriate, ***the most recent*** planning permission, including a copy of ***all*** conditions, a copy of the planning inspector's report, and where an EIAR was required, copies of any such EIAR and any certification associated with the EIAR should also be enclosed. If an application for planning permission pertaining to the operations to which this application relates is currently under consideration by a planning authority, outline details of the application should be submitted, including application file number, the date the application was submitted, a brief summary of the operation and, where an EIAR is required, copies of any such EIAR. Where planning permission / an EIA is not required for the development, explain why not and provide correspondence from the relevant planning authority confirming that planning permission / an EIA is not required.

Where applicable, provide a copy of any screening for Appropriate Assessment report and Natura Impact Statement (NIS) that was prepared for consideration by any planning/public authority as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 as amended in relation to the activity. Where a determination that an Appropriate Assessment is required has been made by any planning/public authority in relation to the activity, a copy of that determination and any screening report and NIS, and any supplemental information furnished in relation to any such report or statement, which has been provided to the planning/public authority for the purposes of the Appropriate Assessment, shall be included in **Attachment A.2**.

Attachment A.2 included	Yes	No
		X

### A.3 Other Authorities

A.3 (i) Shannon Free Airport Development Company (SFADCo) area

The applicant should tick the appropriate box below to identify whether the loading or dumping operations are located within the Shannon Free Airport Development Company (SFADCo) area.

Shannon Free Airport Development Company is not applicable.

**Attachment A.3(i)** should contain details of any or all operations located within the SFADCo area.

Attachment A.3(i) included	Yes	No
		X

A.3 (ii) Health Services Executive Region

The applicant should indicate the **Health Services Executive Region(s)** where the loading and dumping operations are or will be located.

<b>Name:</b>	Area D/Area 4 South
<b>Address:</b>	HSE South Regional Director of Operations
	Cork Business and Technology Park
	Model Farm Rd, Cork
<b>Tel:</b>	Tel: 021-4928500
<b>Fax:</b>	

<b>e-mail:</b>	Rdo.south@hse.ie
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### A.3 (iii) Harbour Authority/Local Authority

The applicant should indicate the **Harbour Authority/Local Authority** where the loading and dumping operations are or will be located. In the event that loading and dumping operations take place in separate functional areas, please provide details of all relevant authorities.

<b>Name:</b>	Not applicable
<b>Address:</b>	
<b>Tel:</b>	
<b>Fax:</b>	
<b>e-mail:</b>	

Relevant Authorities Notified	Yes	No

The pipelines and umbilicals, which are the subject of this application, are not within the functional area of a Harbour Authority or Local Authority.

**Attachment A.3(iii)** should contain a copy of the correspondence issued to all relevant harbour authorities/local authorities.

Attachment A.3(iii) included	Yes	No
		X

### A.4 Newspaper Advertisement

Section 5A of the Dumping at Sea Act 1996 as amended, requires all applicants to advertise the application in a newspaper (within 21 days following date of application). *See accompanying Guidance Note for full details.*

The newspaper notice will be published within twenty-one days after the date of submission of this application. The original page of the newspaper in which the notice is placed, will be sent to the EPA within 21 days after the notice is published.

**Attachment A.4 The original page of the newspaper in which the advertisement was placed must be submitted within 21 days of the advertisement being published.**

Attachment A.4 included	Yes	No
		X

### A.5 Application Fee

State the quantity of material proposed to be dumped and the appropriate fee, as per Columns 1 and 2 of the Dumping at Sea (Fees) Regulations 2012 (S.I. No. 270 of 2012). *See accompanying Guidance Note for full details.*

Quantities to be dumped (tonnes, wet weight)	Application Fee (€)
21,197	€3500

Appropriate Fee Included	Yes	No
	X	

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## A.6 Foreshore Act Licence/Lease

Where applicable, provide a copy of any Foreshore Act licence/lease issued under the Foreshore Act 1933 as amended in relation to any dredging operations at the site relevant to the current application. If an application for a Foreshore Act licence/lease pertaining to the operations to which this application relates is currently under consideration by the Minister, outline details of the application should be submitted, including application file number, the date the application was submitted and a brief summary of the operation. Where an Environmental Impact Assessment (EIA) is required in relation to the proposed dredging operations, copies of any Environmental Impact Assessment Report (EIAR) prepared as part of the Foreshore licence/lease application should be provided. Where an EIA is not required for the proposed project, explain why not and provide correspondence from the relevant Foreshore Licensing Authority confirming that an EIA is not required.

The Seven Heads gas fields and facilities are located on the Continental Shelf. No part of the gas fields and facilities are on the Foreshore.

### Petroleum Lease

The Seven Heads gas fields and facilities were operated under a lease granted under the Petroleum and Other Minerals Development Act, no 7 of 1960, as amended. Kinsale Energy has obtained consent to decommission certain elements of the Seven Heads gas fields and facilities. The competent authority for the decommissioning application is the Minister for the Environment, Climate and Communications (DECC).

The decommissioning application for the wells and subsea structures was submitted in June 2018 and approved April 2019.

Application 2, for the decommissioning of the pipelines and umbilicals (which are the subject of this DaS application) and the retention and installation of protection materials, was made to the Minister for the Environment, Climate and Communications on 13<sup>th</sup> Oct. 2021.

### Continental Shelf Act

The construction of the Seven Heads gas field facilities was subject to consent under the Continental Shelf Act 1968 (as amended). An application to alter the facilities through the installation of engineering materials (Rock Protection) was made to the Minister for the Environment, Climate and Communications on 13th Oct. 2021. A copy of the consent to decommissioning application number 1 is provided in Attachment A.6

**Attachment A.6** should contain any relevant licence issued under the Foreshore Act 1933 as amended, including a copy of **all** conditions attached to the licence and any monitoring returns for the previous 12-month period, if applicable. Outline details of any foreshore licence applications currently under assessment should be provided, if applicable, including copies of any EIAR submitted or any correspondence from the Foreshore Licensing Authority confirming that an EIAR is not required.

Attachment A.6 included	Yes	No
		X

## A.7 Current/Previous Permits

Provide details of any current or previous permits held by the applicant under the Dumping at Sea Act 1996 as amended.

Not Applicable. The applicant does not hold any current or previous Dumping at Sea permits.

**Attachment A.7** should contain the most recent permit issued under the Dumping at Sea Act 1996 as amended, including any monitoring returns for the previous 12-month period, if applicable.

<b>Attachment A.7 included</b>	<b>Yes</b>	<b>No</b>
		<b>X</b>

## A.8 Summary of Activities

Provide a short description (1-2 sentences) of the proposed activities, the location of the proposed loading area(s) (where applicable) and the location of the proposed dumping site(s).

<b>Description of activities:</b>	Kinsale Energy has received consent to decommission the Seven Heads gas fields and facilities, which are at the end of their productive life. The gas wells are being plugged, the pipelines filled with seawater and the subsea structures are being removed. The proposed 'dumping at sea' activity is to retain in place the redundant in-field gas pipelines, the in-field umbilicals and umbilical contents. In total, circa 61km of subsea steel pipelines, varying in size from 8inch (203mm) to 18inch (457mm), 61km of control umbilicals, varying in diameter from 93.2mm to 123.5mm, will be retained in place.
<b>Location of loading area(s):</b>	Not applicable
<b>Location of dumping site(s):</b>	The Seven Heads gas fields are in the Celtic Sea, between approximately 46km and 50km south of the County Cork coastline. The facilities include pipelines and control umbilicals and subsea infrastructure.

## SECTION B: MATERIAL ANALYSIS

*Advice on completing this section is provided in the accompanying Guidance Note.*

### B.1 Sediment Chemistry Results

At a minimum, sampling must be conducted for the physical and chemical parameters listed in Annex 1 to this application form.

Details of all sampling results of the substance or material to be dumped at sea **must** be supplied in Excel format using the **Dumping at Sea Material Analysis Reporting Form<sup>1</sup>**, available to download from the EPA website [www.epa.ie](http://www.epa.ie).

No sediment will be dumped.

The completed Excel form should be included as **Attachment B.1(I)**.

Attachment B.1(I) included	Yes	No
		X

Copies of the laboratory reports should also be submitted as part of the application, as **Attachment B.1(II)**.

Attachment B.1(II) included	Yes	No
		X

The results of the sediment chemistry analysis should also be summarised in tabular format with reference to the upper and lower Irish action levels, using Table B.1 in Annex 1. The completed Table B.1 should be included as **Attachment B.1(III)**.

Attachment B.1(III) included	Yes	No
		X

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### B.2 Characteristics and Composition of the Substance or Material for Disposal

Provide a report describing the particulars of the nature, composition and quantity of the substance or material to be disposed.

Applicants must also address the following criteria relating to the composition of the substance or material to be disposed:

- Amount and composition of the material;

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<sup>1</sup> This information will be made publicly available on the EPA's Envision Map Viewer following the Agency's determination of the permit application.



- Material form, e.g., solid, liquid;
- Physical properties (especially solubility, specific gravity and density);
- Chemical and biochemical properties (e.g., oxygen demand, nutrients);
- Biological properties (viruses, bacteria, yeasts, parasites);
- Radioactivity;
- Toxicity;
- Persistence in the environment (physical, chemical and biological);
- Accumulation and biotransformation in biological materials or sediments;
- Chemical and physical changes of the substance or material after release, including formation of new compounds;
- Probability of production of taints or other changes reducing marketability of resources (e.g., fish, shellfish).

The information on the material properties of the pipelines and umbilicals, which will be retained in situ, is presented in attachment B.2.

A synthesis report on the characteristics and composition of the substance or material for disposal should be submitted, addressing all criteria listed above, and any supporting information, as **Attachment B.2**.

Attachment B.2 included	Yes	No
	X	

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## SECTION C: ALTERNATIVES TO DUMPING AT SEA

### C.1 Alternative measures

Under the provisions of Section 5(2) of the Dumping at Sea Act 1996 as amended, the dumping of substances or material at sea is only acceptable when the Agency is satisfied there are no suitable alternative means of disposal. Provide details of all investigations into alternative means of disposal or reuse of the substance or material. Applicants must also demonstrate that all necessary steps have been taken to minimise the quantity of material to be dumped or to render the material less harmful for dumping at sea. A complete and full answer must be provided.

The alternative means of disposal of the pipelines and umbilicals, which were considered by the applicant, are described in Attachment C.1.

**Attachment C.1** should contain reports and supporting documentation with regard to the investigations into alternative means of disposal, treatment or reuse. Any associated drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab or other upon agreement) in Longitude and Latitude (WGS84 datum).

Attachment C.1 included	Yes	No
	X	

## SECTION D: LOADING OPERATIONS

*Advice on completing this section is provided in the accompanying guidance note.*

**Note:** this section should only be completed where it is proposed to load a substance or material onto a vessel or aircraft for subsequent dumping at sea. Where no loading is proposed (e.g., in the case of plough dredging, water injection dredging or side-cast dredging), then this section should be left blank and all information on the proposed operations should be provided in Section E: Dumping Operations<sup>2</sup>.

The pipeline and umbilicals are already in situ. No loading operation is proposed. Section D is not applicable.

### D.1 Purpose of the operation

Provide details on the purpose of the loading operation, e.g., does the proposed loading activity relate to capital or maintenance dredging work. Details of any previous loading at the proposed site(s) should also be included.

**Attachment D.1** should contain any supporting documentation on the purpose of the loading operation and details of any previous loading activity. Any associated drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab or other upon agreement) in Longitude and Latitude (WGS84 datum).

Attachment D.1 included	Yes	No
		X

### D.2 Loading Area(s)

Sets of coordinates for the loading area(s) must be given in in Longitude and Latitude (WGS84 datum; in degrees and decimal minutes), as follows.

	WGS84 datum	
	Latitude <<e.g. 51°43.00' N>>	Longitude <<e.g. 08°10.18' W>>
(a)		
(b)		
(c)		
etc.		

Tables with the coordinates for the loading area(s), and any associated drawings / maps of the loading area(s) provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab or other upon agreement), should be submitted as **Attachment D.2**.

<sup>2</sup> Plough dredging, water injection dredging, side-cast dredging and other such dredging techniques are included in the definition of "dumping" in the Dumping at Sea Act 1996 as amended. These activities are therefore considered to be dumping activities and require a Dumping at Sea Permit.

Attachment D.2 included	Yes	No
		X

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### D.3 Details of the loading operation

Provide details on the following aspects of the loading operation:

D.3 (I) Date of commencement and duration of the loading operations;

D.3 (II) Location and method of loading of the substance or material;

D.3 (III) Total quantities (in tonnes (wet weight) and cubic meters) to be loaded:

- per day
- per week
- per month.

**Attachment D.3** should also contain any additional supporting documentation on the details of the loading operations. Any associated drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab or other upon agreement) in Longitude and Latitude (WGS84 datum).

Attachment D.3 included	Yes	No
		X

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## SECTION E: DUMPING OPERATIONS

*Advice on completing this section is provided in the accompanying Guidance Note.*

**Note:** Plough dredging, water injection dredging, side-cast dredging and other such dredging techniques are included in the definition of “dumping” in the Dumping at Sea Act 1996 as amended. These activities are therefore considered to be dumping activities and require a Dumping at Sea Permit.

### E.1 Dumping Site Selection

Provide details of the dumping site selection process, including site description, suitability and rationale for final site selection. Full details of the dumping site selection process should be submitted as **Attachment E.1**

The pipeline and umbilicals are to be retained, at the locations in which they were installed and used as part of the gas field operations. No site selection process for the dumping site was necessary or undertaken. This section is not applicable.

Attachment E.1 included	Yes	No
		X

### E.2 General Information

#### E.2 (I) Characteristics of the dumping site(s)

Provide a description of the characteristics of the dumping site(s), based on investigations carried out as part of this or previous permit applications. Including but not limited to:

- distance from nearest shore
- average, minimum and maximum depth of water (referenced to OD Malin);
- sediment characteristics;
- nature of seabed habitats;
- current/flow/tidal regime; etc.

Information on the characteristics of the dump site is submitted in Attachment E.2(I)

If the dumping site(s) has been used previously, provide details of tonnages dumped, duration of dumping and any investigations into the impact of the dumping operations on the environment at the dumping site(s). Please provide details of any previous Dumping at Sea permits relating to the dumping site(s), if applicable. Information on the characteristics of the dumping site(s) should be submitted as **Attachment E.2(I)**

Attachment E.2(I) included	Yes	No
	X	

#### E.2 (II) Location of the dumping site(s)

Sets of coordinates for the dumping site(s) must be given in Longitude and Latitude (WGS84 datum; in degrees and decimal minutes), as follows:

	WGS84 datum
--	-------------

	<b>Latitude</b> <<e.g. 51°43.00' N>>	<b>Longitude</b> <<e.g. 08°10.18' W>>
<b>(a)</b>		
<b>(b)</b>		
<b>(c)</b>		
<b>(d)</b>		
<b>etc.</b>		

Location of the dumping site is submitted in Attachment E.2(II)

Tables with the coordinates for dumping site(s), and any associated drawings / maps of the dumping site(s) provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab or other upon agreement), should be submitted as **Attachment E.2(II)**.

<b>Attachment E.2(II) included</b>	<b>Yes</b>	<b>No</b>
	<b>X</b>	

### E.3 Details of the dumping operation

Provide details on the following aspects of the proposed dumping operation:

E.3 (I) Date of commencement and duration of the dumping operations;

E.3 (II) Name and address of operator contracted to carry out the dumping at sea (if known)

E.3 (II) Location and method of dumping;

E.3 (III) Total quantities (in tonnes (wet weight) and cubic meters) to be dumped per day/ week/month.

The pipelines and umbilicals are already in-situ at the dumping site. No dumping operation will be carried out.

**Attachment E.3** should also contain any additional supporting documentation on the details of the dumping operations. Any associated drawings / maps should also be provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab or other upon agreement) in Longitude and Latitude (WGS84 datum).

<b>Attachment E.3 included</b>	<b>Yes</b>	<b>No</b>
		<b>X</b>

## SECTION F: IMPACT ON THE RECEIVING ENVIRONMENT

*Advice on completing this section is provided in the accompanying Guidance Note.*

### F.1 Assessment of Impact on the Environment

- Provide an assessment of the predicted impact on the receiving environment of the proposed loading and dumping at sea activities to which this application relates. This assessment should include the following, where applicable:
  - Initial dilution to be achieved by proposed method of release;
  - Methods of packaging and containment, if any;
  - Dispersal, horizontal transport and vertical mixing characteristics;
  - Existence and impact of current and/or previous dumping in the area (including accumulative effects);
  - Sea bottom characteristics, including topography, geochemical and geological characteristics and benthic micro-fauna and macro-fauna;
  - Water characteristics (e.g., temperature, pH, salinity, oxygen indices of pollution-dissolved oxygen (DO), nitrate, nitrite, ammonia, phosphate and suspended matter);
  - Interference with shipping, fishing, recreation, mineral extraction, desalination, fish spawning and nursery habitats, 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.
- Submit an Underwater Archaeological Impact Assessment report or complete NMS Form 1 (Annex 3).
- Details of any previous sampling at the loading area(s) and dumping site(s), conducted either as part of this application, previous permit application or previous post-dumping monitoring programmes, should be supplied. If sampling has been conducted as part of an EIAR which has also been submitted with the application form, reference to the appropriate table(s) of results in the EIAR will be sufficient in this case. Results of the National Seabed Survey should be included, where available.
- Describe the existing environment at the loading area(s) and dumping site(s) in terms of water quality and sediment quality, with particular reference to environmental quality standards or other legislative standards.
- Undertake a screening for Appropriate Assessment and state whether the activity, either individually or in combination with other plans or projects is likely to have a significant effect on a European Site(s), in view of best scientific knowledge and in view of the conservation objectives of the site(s). Where it cannot be excluded, on the basis of objective scientific information, following screening for Appropriate Assessment, that an activity, either individually or in combination with other plans or projects, will have a significant effect on a European Site, provide a Natura Impact Statement, as defined in Regulation 2(1) of the European Communities (Birds and Natural Habitats) Regulations 2011 as amended. Where based on the screening it is considered that an Appropriate Assessment is not required, provide a reasoned response. The screening report and Natura Impact Statement, where applicable, shall be provided in **Attachment F.1**. You are furthermore advised to refer to the document 'Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities', issued in 2009 by the then Department of the Environment, Heritage and Local Government, and revised in 2010. This document is available at:  
[www.npws.ie/publications/archive/NPWS\\_2009\\_AA\\_Guidance.pdf](http://www.npws.ie/publications/archive/NPWS_2009_AA_Guidance.pdf).

- Submit a Marine Mammal Risk Assessment (MMRA), completed by a suitably qualified marine ecologist, evaluating the risk to marine mammals from the proposed activities. The risk assessment should be completed in accordance with the approach outlined in *Guidance to Manage Risk to Marine Mammals from Man-made Sound Sources in Irish Waters* published in January 2014 by the then Department of Arts, Heritage and the Gaeltacht. Applicants are required to consult with the National Parks and Wildlife Service (NPWS), via the Development Applications Unit, in relation to the preparation and completion of the MMRA, submit copies of any recommendations received from the NPWS and clearly show how these have been incorporated into the assessment (refer to EPA's Dumping at Sea Guidance Note for relevant contact details).
- Give details of any other designations under any Council Directive or Regulations that apply in relation to the loading area(s) and dumping site(s), including but not limited to:
  - The Bathing Water Directive 76/160/EEC,
  - The Water Framework Directive 2000/60/EC,

Indicate whether or not the loading and dumping of the substance or material, the loading and dumping methods employed, or other factors associated with such operations are likely to have a significant effect on a designated site.

- The assessment of the impact on the receiving environment should include details on how the loading and dumping operations will be managed to ensure that they will comply with, or will not result in the contravention of:
  - The Water Framework Directive 2000/60/EC,
  - The Marine Strategy Framework Directive 2008/56/EC,
  - The Priority Substances Directive 2008/105/EC.
- This section should also contain full details of any modelling of the impact on the receiving environment of the proposed loading and dumping operations.

Information on the impact of the dumping operation on the environment is presented in Attachment F.1

Full details of the assessment and any other relevant information on the receiving environment should be submitted as **Attachment F.1**.

Attachment F.1 included	Yes	No
	X	



## SECTION G: MONITORING

*Advice on completing this section is provided in the accompanying Guidance Note.*

### G.1 Monitoring Programme

The pipeline and umbilicals are in situ. There is no loading area. There will be no dumping activity, and no disturbance of the seabed. Consequently, no archaeological monitoring is proposed.

The pipelines have corrosion protection coatings and the umbilicals are manufactured from materials which will not corrode readily in the marine environment. It will take a very long time for the pipelines and umbilicals to begin to oxidise. The oxidation products will be non-toxic to the marine ecosystem and/or the quantities will be extremely small relative to the dilution available. Consequently, no environmental monitoring is proposed.

One of the final decommissioning activities will be the placement of rock protection (rock berms) on the ends of the pipelines and umbilicals and on any freespans which might form a hazard to fishing activities. The condition of the rock berms will be checked through a number of post-decommissioning surveys, the timing of which will be agreed with the Department. of the Environment, Climate and Communications.

Proposed programmes for environmental monitoring at both the loading area(s) and dumping site(s) should be submitted as part of the application. These programmes should be provided as **Attachment G.1**. Refer to the accompanying Guidance Note for further detail on the information required.

Attachment G.1 included	Yes	No
		X

### G.2 Tabular data on Monitoring Points

Applicants should submit the following information for each proposed monitoring point:

PT_CD	WGS84 datum	
	Latitude (e.g. 52°39.470' N)	Longitude (e.g. 08°38.636' W)
Point Code (Referencing system outlined in guidance note)	Not applicable	Not applicable

An individual record (i.e., row) is required for each monitoring point. Acceptable file formats include Excel, Access or other upon agreement with the Agency. **Error! Hyperlink reference not valid.**

## SECTION H: DECLARATION

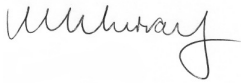
### Declaration

I hereby apply for a Dumping at Sea permit, pursuant to the provisions of the Dumping at Sea Act 1996 as amended.

I certify that the information given in this application is truthful, accurate and complete.

I give consent to the EPA to copy this application for its own use and to make it available for inspection and copying by the public, both in the form of paper files available for inspection at EPA and local authority offices, and via the EPA's website.

This consent relates to this application itself and to any further information or submission, whether provided by me as Applicant, any person acting on the Applicant's behalf, or any other person.



**Signed by:** \_\_\_\_\_  
(on behalf of the organisation)

**Date:** 20/10/2021

**Print signature name:** M.V.Murray

**Position in organisation:** Head of Engineering & Projects

## ANNEX 1: TABLES

**Table B.1 Results of sediment chemistry analysis of the material to be dumped at sea, with reference to Irish Action Levels** <sup>Note 1</sup>

No sediment will be dumped. Annex I is not used.

Parameter	Units (dry wt) Note 2	Sampling points			
		L1-1	L1-2	L1-3	L1-4 etc.
Arsenic	mg kg <sup>-1</sup>				
Cadmium	mg kg <sup>-1</sup>				
Chromium	mg kg <sup>-1</sup>				
Copper	mg kg <sup>-1</sup>				
Lead	mg kg <sup>-1</sup>				
Mercury	mg kg <sup>-1</sup>				
Nickel	mg kg <sup>-1</sup>				
Zinc	mg kg <sup>-1</sup>				
Σ TBT & DBT <sup>Note 3</sup>	mg kg <sup>-1</sup>				
γ-HCH (Lindane) <sup>Note 4</sup>	μg kg <sup>-1</sup>				
HCB <sup>Note 5</sup>	μg kg <sup>-1</sup>				
PCB 028	μg kg <sup>-1</sup>				
PCB 052	μg kg <sup>-1</sup>				
PCB 101	μg kg <sup>-1</sup>				
PCB 138	μg kg <sup>-1</sup>				
PCB 153	μg kg <sup>-1</sup>				
PCB 180	μg kg <sup>-1</sup>				
PCB 118	μg kg <sup>-1</sup>				
PCB (Σ ICES 7) <sup>Note 6</sup>	μg kg <sup>-1</sup>				
PAH (Σ 16) <sup>Note 7</sup>	μg kg <sup>-1</sup>				
Total Extractable Hydrocarbons	g kg <sup>-1</sup>				

**Note 1:** Applicants should highlight in Table B.1 any results which exceed either the upper or lower Irish action levels. Action levels are published in: *Cronin et al., 2006, Guidelines for the Assessment of Dredge Material for Disposal in Irish Waters, Marine Environment & Health Series, No. 24, Marine Institute and Marine Institute, 2019, Addendum to 2006 Guidelines for the Assessment of Dredged material in Irish Waters (Cronin et al.).*

**Note 2:** Total sediment <2 mm

**Note 3:** Sum of tributyl tin and dibutyl tin

**Note 4:** 1α,2α,3β,4α,5α,6β-hexachlorocyclohexane

**Note 5:** Hexachlorobenzene

**Note 6:** ICES 7 polychlorinated biphenyls: PCB 028, 052, 101, 118, 138, 153, 180.

**Note 7:** Polyaromatic hydrocarbons (measured as individual compounds): Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Dibenzo(ah)anthracene, Benzo(ghi)perylene, Indeno(123-cd)pyrene.

## ANNEX 2: APPLICATION CHECKLIST

This checklist is to assist the applicant in ensuring a valid and complete application is submitted to the Agency.

Section of Application Form		Checked by Applicant	Checked by Agency
A.2	Planning Permission / EIAR / NIS attached	X	
A.3(i)	SFADCo correspondence attached	-	
A.3(iii)	Harbour Authority / Local Authority correspondence attached	-	
A.4	Original newspaper notice included	-	
A.5	Appropriate fee paid	X	
A.6	Foreshore Licence / EIAR attached	-	
A.7	Current / previous permit attached	-	
B.1(I)	Material Analysis Reporting Form attached	-	
B.1(II)	Laboratory Reports attached	-	
B.1(III)	Table B.1 attached	-	
B.2	Description of material for disposal attached	X	
C.1	Alternative measures investigation attached	X	
D.1	Purpose of the loading operation attached	-	
D.2	Coordinates & maps/charts of loading area(s) attached	-	
D.3	Operational details of loading activity attached	-	
E.1	Dumping site selection report attached	-	
E.2(I)	Characteristics of the dumping site(s) attached	X	
E.2(II)	Coordinates & maps/charts of dumping site(s) attached	X	
E.3	Operational details of dumping activity attached	-	
F.1	Assessment of impact on the environment attached	X	
G.1	Programme for environmental monitoring attached	-	
G.2	Tabular data on monitoring points attached	-	
H	Signed declaration included	X	
<b>Additional Checks</b>			
All drawings / maps provided as geo-referenced digital drawing files (e.g. ESRI Shapefile, MapInfo Tab or other upon agreement) in Longitude and Latitude (WGS84 datum).		X	
1 signed original application form (with attachments).		X	
1 additional application hardcopy (with attachments).		X	
2 copies of all files in electronic searchable PDF format on CD_ROM (OCR'd) or other agreed format.		X	
Include 1 copy of the Material Analysis Reporting Form in Excel format on the CD_ROM.		-	

## ANNEX 3: NMS Forms 1 and 2

### NMS FORM 1

**REQUEST: applicant's case that no archaeological monitoring is required for the proposed dumping at sea (DAS) activity.**

*To note:*

- See criteria for the assessment by the National Monuments Service of the request submitted by the applicant in the DAS Permit Application Guidance Note (Annex 3).

The following details need to be included as part of the DAS permit application to the EPA.

**1. Maintenance loading/dumping activities have been undertaken for the area in question in recent times and to the same depth (i.e. not historic dredging works)**

1a. Details:

Not applicable

1b. Location details: Supply separate map or chart if required, to indicate full extent of area.

Not applicable

**2. Area (including loading area and/or dumping area) has been the focus of an Underwater Archaeological Impact Assessment (UAIA) and/or full-time archaeological monitoring previously with no archaeological findings/discoveries:**

*To note:* Archaeological results to date will be taken into account when assessing this request, as well as the archaeological potential of the area.

Note: where no loading is proposed (e.g., in the case of plough dredging, water injection dredging or side-cast dredging which are included in the definition of "dumping" in the Dumping at Sea Act), Section 2a should be left blank and all information on the proposed operations should be provided in 2b Dumping area below.

2a. Loading area: Provide area, scale and summary of archaeological results:

Not applicable

**2b. Dumping area: Provide area, scale and summary of archaeological results:**

Dr Niall Brady, Archaeological Diving Company Ltd, prepared a Cultural Heritage Assessment of the Kinsale Field Decommissioning. The DaS application is to retain insitu existing pipelines and umbilicals. The recommendation of the Cultural Heritage Assessment was *"Given that the decommissioning works are restricted to ground that has already been disturbed, there should be no requirement for archaeological monitoring."*

The Cultural Heritage Assessment is Attachment C of the EIAR Addendum, which is provided in Appendix 2.

**2c. Name and details of Archaeological Consultant who undertook the monitoring:**

- Name of Archaeological Consultant:

Not applicable

- Archaeological Excavation Licence number:

Not applicable

**2d. Date of Underwater Archaeological Impact Assessment (UAIA) if relevant and Archaeological Monitoring Report as submitted to the National Monuments Service:**

November 2018

**3. Area is made ground/reclaimed/was excavated out to and now comprises rock/introduced/modern material only:**

**3a. Details:**

Not applicable

**3b. Date works done:**

Not applicable

**4. Area is predominantly boulder clay/bedrock/rock outcrop:**

**4a. Details:**

Not applicable

**5. Statement by applicant outlining case as to why no archaeological monitoring of loading and/or dumping works is necessary for this current programme of works:**

There will be no loading activity. The pipelines and umbilicals are already in place. There will be no dumping activity and no physical intervention in the seabed. As recommended by Dr Niall Brady, Archaeological Diving Company Ltd, archaeological monitoring is unnecessary.

## NMS FORM 2

**REQUEST: by permit holder to scale down/suspend/cease the requirement for archaeological monitoring of dumping at sea (DAS) activities as per conditions of the DAS Permit as granted.**

*To note:*

- See criteria for the assessment by the National Monuments Service of the request submitted by the permit holder in Application Guidance Note (Annex 3).
- Permit holders should submit requests electronically, by sending completed NMS Form 2 to: [connie.kelleher@chg.gov.ie](mailto:connie.kelleher@chg.gov.ie); if electronic referral is not possible, by post to: The Underwater Archaeology Unit,
- National Monuments Service, Department of Housing, Local Government and Heritage, Custom House, Custom House Quay, Dublin 1.

**1. Maintenance loading/dumping activities have been undertaken for the area in question in recent times and to the same depth (i.e. not historic dredging works)**

1a. Details:

Not applicable

1b. Location details: Supply separate map or chart if required, to indicate full extent of area.

Not applicable

**2. Area has been the focus of full-time archaeological monitoring for a number of weeks/months:**

*To note:* Archaeological results to date will be taken into account when assessing this request, as well as the archaeological potential of the area.

2a. Date commenced and duration to date:

Not applicable

2b. Name and details of Archaeological Consultant:

Not applicable

- Name of Archaeological Consultant:
- Archaeological Excavation Licence number:



2c. Date and details of previous Underwater Archaeological Impact Assessment (UAIA) carried out, if relevant:  
Not applicable

**3. Area is made ground/reclaimed/was excavated out and now comprises rock/introduced/modern material only:**

3a. Details:  
Not applicable

3b. Date works done:  
Not applicable

**4. Area is now predominantly boulder clay/bedrock/rock outcrop:**

4a. Details:  
Not applicable

**5. Statement by applicant outlining case for the suspension or cessation of archaeological monitoring for this current programme of works:**

Not applicable

**Kinsale Area Decommissioning Plan**  
**Seven Heads Dumping at Sea Permit Application**  
**Attachments**

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#### **Attachment A.6 Consents to decommissioning applications**

- Application 1 – Consent received from the Minister (Department of Communications, Climate Action and Environment) in April 2019 to
  - The ‘Seven Heads Decommissioning Plan – Seven Heads Petroleum Lease’ an addendum proposed by SHL to the Seven Heads Field Plan of Development, pursuant to the Petroleum Lease granted under Section 13 of the POMDA which covers the decommissioning of certain facilities in the Seven Heads Gas Field and
  - That SHL may alter and remove facilities from the area designated pursuant to Section 2 of S.I. No. 92/1993 – Continental Shelf (Designated Area) Order, 1993, pursuant to Section 5(2) of the Continental Shelf Act 1968, as amended.

Mr Morrissey

Mr Collins

Rúnaí Aire Stáit

## Decision Sought

### *The Minister of State approves:*

- *The ‘Seven Heads Decommissioning Plan – Seven Heads Petroleum Lease’ an addendum proposed by PSE Seven Heads Limited (“SHL”) to the Seven Heads Field Plan of Development, which covers the decommissioning of certain facilities known as the “Seven Heads Gas Field”, pursuant to a Petroleum Lease dated 13 November 2002 (the “Lease”), which was granted under Section 13 of the Petroleum and Other Minerals Development Act, 1960, as amended (“POMDA”); and*
- *That SHL may alter and remove facilities pursuant to Section 5(2) of the Continental Shelf Act 1968 (as amended) from the area designated pursuant to Section 2 of S.I. No. 92/1993 - Continental Shelf (Designated Areas) Order, 1993.*

## Background

1. The Seven Heads gas field is located off the Cork coastline and is adjacent to the Kinsale area gas fields. The field has been developed as a subsea tie-back to the facilities on the Kinsale Head Alpha platform with five wells connected to a single subsea manifold. Seven Heads has been in operation since 2002, although the level of production declined significantly after the first year of operation.
2. In November 2002, a Petroleum Lease was granted to Ramco Seven Heads Ltd., Island Petroleum Development Ltd., Northern Exploration Ltd. and Sunningdale Oils (Ireland) Ltd to develop the Seven Heads gas field. Following a number of assignments of interests, the current interests in the Petroleum Lease are as follows:

Lessee	Equity interest
PSE Seven Heads Ltd. (Operator) <sup>1</sup>	86.5%
Island (Seven Head) Ltd	12.5%
Sunningdale Oils (Ireland) Ltd	1%

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<sup>1</sup> PSE Seven Heads Limited is a wholly owned subsidiary of PETRONAS, the Malaysian Oil and Gas Company.

3. The parties to the Petroleum Lease pursuant to clause 18 of the Lease also entered into a Facility Decommissioning Agreement (“**FDA**”). The FDA describes the respective rights, duties and obligations of the parties to the FDA in connection with the decommissioning of the gas field.
4. The cessation of production of the Seven Heads gas field is expected to occur in the period 2020 - 2021 when continued production would be no longer economic. The field currently contributes less than 1% towards Ireland’s annual gas consumption requirement. Upon cessation of gas production, it is intended that decommissioning of the facilities will commence subject to receipt of all necessary approvals.

### **Application**

5. On 28 June 2018, SHL (the “**Applicant**”) applied to the Minister to decommission certain facilities within the Seven Heads Gas Field (**TAB 1**). The details of the application are set out in ‘Decommissioning Plan – Seven Heads Petroleum Lease – Consent Application No. 1’ (the “**Decommissioning Plan**”) (**TAB 2**) accompanying the application. The scope of work (“**Relevant Works**”) involved in the Decommissioning Plan is outlined below:
  - a. the plug and abandonment of subsea wells, and the removal to shore for recycling/disposal of any surface component of these wells, including wellhead structures;
  - b. the removal of subsea structures (subsea manifold) to shore for recycling remove. In addition short pipeline spools/umbilical jumpers will be removed to facilitate the removal of the structure. All associated pipeline protection will also be removed;
  - c. The recovery of any large items of debris and post-decommissioning survey to confirm the success of the decommissioning operations; and
  - d. submission of a Decommissioning Close-Out report setting out confirmation of the Relevant Works being completed with detail and surveys to confirm same.
6. On 28 June 2018, a separate application was made by PSE Kinsale Energy Limited<sup>2</sup> (“**KEL**”) to the Minister to decommission certain facilities within the adjoining Kinsale Gas field and its satellite fields (the “**Kinsale Gas Area**”). That application will be the subject of a separate submission and decision.
7. Further applications for a second phase will be submitted by both SHL and KEL covering the decommissioning of the remaining facilities (i.e. the pipelines, umbilicals (which transfer hydraulic and electric power from the platform to the subsea) and platform substructures (jackets).
8. The entire decommissioning scope of work for both the Seven Heads Gas Field and Kinsale Gas Area and both phases is referred to in this submission as the Kinsale Area Decommissioning Plan (“**KADP**”). The KADP comprises the entire decommissioning of the Kinsale Area Gas Field

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<sup>2</sup> Parent Company of SHL

and for the Seven Heads Gas Field includes the Relevant Works, as defined above, and the following (“**Remaining Works**”):

- a. The decommissioning of all pipelines, control cables and their protection materials involving rock placement of freespans and/or remaining exposed sections of pipe and all remaining in situ protection materials.
9. On 21 June 2018, the Minister determined, pursuant to Section 13B(2) of the Petroleum and Other Minerals Development Act 1960, as amended (the “**POMDA**”), that an Environmental Impact Assessment (“**EIA**”) was required for the KADP.
10. The application was accompanied by an ‘Environmental Impact Assessment Report’ (“**EIAR**”) (**TAB 3**) including a Non-Technical Summary (**TAB 4**) in accordance with section 13A and 13B of the POMDA and a ‘Report for the Purposes of Appropriate Assessment Screening and Article 12 Assessment Screening’ (“**AA Screening Report**”). The EIAR and the AA Screening Report both cover the environmental impacts of the entire decommissioning of the facilities for both the Seven Heads Gas Field and Kinsale Gas Area and both phases, i.e., they cover the entire KADP.
11. Under Section 8.8 of the Department’s Rules and Procedures Manual for Offshore Petroleum Production Operations (the “**Rules and Procedures Manual**”), the Operator must separately submit a Cessation of Operations application prior to the proposed date for the cessation of operations. Clause 17.2 of the Lease requires the Lessees to give the Minister at least six months prior written notice of their intention to cease any commercial production operations under the Lease.
12. On 18 April 2019 the Minister determined:
  - a. that an Appropriate Assessment for the ‘Seven Heads Decommissioning Plan – Seven Heads Petroleum Lease– Consent Application No. 1’ is not required as it can be excluded on the basis of objective scientific information, following screening under the European Communities (Birds and Natural Habitats) Regulations, SI No. 477 of 2011 (as amended), that the Decommissioning Plan, individually or in-combination with other plans or projects, will have a significant effect on a European site, and,
  - b. that the assessment for Annex IV Species have been found to be of an acceptable standard to be satisfied that there would be no significant adverse effects on Annex IV species, should approval be granted for the Decommissioning Plan.

#### **Ministerial Considerations in assessing the application**

13. Minister to be satisfied that the application is in line with OSPAR Convention<sup>3</sup> Decision 98/3, which states *“the dumping, and the leaving wholly or partly in place, of disused offshore installations within the maritime area is prohibited”*.

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<sup>3</sup> OSPAR Convention - The Convention for the Protection of the Marine Environment of the North-East Atlantic

14. Minister to be satisfied with the Decommissioning Plan submitted in accordance with the Lease granted under Section 13 of the POMDA.
15. Minister to be satisfied that the applicant may alter and remove certain facilities from the area designated pursuant to Section 2 of S.I. No. 92/1993 - Continental Shelf (Designated Areas) Order, 1993, pursuant to Section 5(2) of the Continental Shelf Act 1968.
  - a. Minister to be satisfied that the Lessees have made provision for, the carrying out and meeting the costs of decommissioning of the facilities to the reasonable satisfaction of the Minister and in accordance with Good Industry Practice and Law, in accordance with Clause 18.1 of the Petroleum Lease.
  - b. Minister to be satisfied that the Lessee shall conduct its activities in an effective manner in accordance with Good Industry Practice, all provisions of the relevant Rules and Procedures Manual for Offshore Petroleum Production Operations (the “**Rules and Procedures Manual**”), and all applicable Laws in accordance with Clause 8.1(1) of the Petroleum Lease.
  - c. Minister to be satisfied that the Operator shall decommission the facilities in accordance with the approved Decommissioning Plan, the Lease, any applicable Law and Good Industry Practice, in accordance with Section 8.1 of the FDA.
  - d. Minister to be satisfied that the Decommissioning Plan will cover all other matters relevant to the proper preparation for and management of Decommissioning including, but not limited to, alternative uses for facilities, plugging of wells, removal of structures and pipelines (as agreed with the Petroleum Affairs Division (“**PAD**”)) and salvage of Facilities, in accordance with Section 4.3(4) of the FDA.
16. Environmental Impact Assessment
  - a. Minister to consider the EIAR under European Union Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by Directive 2014/52/EU (which has yet to be transposed but has been administratively applied by the Minister since 16 May 2017), and in accordance with the requirements of section 13A and 13B of the POMDA.
  - b. In addition to the EIAR, Minister to have regard to relevant matters including the following:
    1. the particulars submitted with the plan seeking his or her approval for working of petroleum and any other material including maps and plans, in accordance with Section 13B(5)(a) of the POMDA;
    2. any additional material submitted in response to a request for further information, if any, in accordance with Section 13B(5)(b) of the POMDA; and



3. any submissions or observations validly made in relation to the effects on the environment of the proposed development including those made by other consent authorities, statutory consultees or members of the public, in accordance with Section 13B(5)(c) of the POMDA.
- c. Minister to attach such conditions to the decision as the Minister considers necessary to avoid, reduce and, if possible, offset the major adverse effects (if any) of the proposed working, in accordance with Section 13B(6) of the POMDA.
- d. Minister may have regard to, and adopt in whole or in part, any reports prepared by his or her officers or by consultants, experts or other advisors, in accordance with Section 13B(7) of the POMDA.

## Assessment of application

### *Process and consultation*

17. In assessing the application the Department engaged the support of RPS Consultants for independent environmental expertise in relation to the statutory assessment of the EIAR and also took advice on technical matters from Selgovia Limited ("**Selgovia**"), who provide petroleum engineering services to the Department.
18. The application together with the Decommissioning Plan, EIAR and AA Screening Report were posted on the Department's website on 28 June 2018 and parties were invited to make comments on the submission before 31 July 2018. The application was also posted in the EIAR portal of the Department of Housing, Planning and Local Government.
19. The Applicant posted notice on 28 June 2018 in the Irish Examiner, a daily newspaper of the State that they had applied to the Minister for approval for an addendum to the Seven Heads Plan of Development and to alter and remove certain facilities from the Continental Shelf and that the applications were accompanied by an EIAR and an AA Screening Report. The notices gave information on where the documents could be inspected and how to make submissions or observations to the Minister.
20. The Applicant also gave notice of the application in writing to a list of prescribed bodies<sup>4</sup> as set out in SI 141/1990 (POMDA) (Section 13A) Regulations, 1990 and a further list of bodies notified by the Minister to the Applicant in accordance with Article 6 of the EIA Directive (2014/52/EU) in writing on 30 May 2018.
21. Submissions were received from ten parties (**TAB 5**), with those related to the EIA summarised in paragraph 33 and those related to the decommissioning itself summarised in paragraph 39-

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<sup>4</sup> Cork County Council, the Commissioners of Public Works, An Taisce, the Minister for Agriculture, Food and the Marine, the Minister for Housing, Planning and Local Government, the Minister for Culture, Heritage and the Gaeltacht (National Parks & Wildlife Service), the Minister for Transport, Tourism and Sport, the Health and Safety Authority, the Sea-Fisheries Protection Authority, Bord Iascaigh Mhara, the Marine Institute, the Environmental Pillar, the Irish Whale and Dolphin Group, the Heritage Council, and the Environmental Protection Agency.

41 of this submission. Those responses related to the AA screening have been summarised in a separate submission to the Minister.

22. Having reviewed the application and submissions and observations submitted to the Minister, RPS prepared the 'Kinsale Area Decommissioning Project Environmental Impact Assessment Technical Review' (**TAB 6**).
23. Taking the recommendation from RPS' review, further information was sought by the Minister from the Applicant by serving a notice on 24 September 2018 (**TAB 7**) requiring the applicant to submit further information. In seeking this further information from the Applicant, it was determined by the Minister that the further information to be furnished was 'significant additional data' in relation to the effect on the environment, and therefore another round of consultation with the public and prescribed bodies was carried out, in the same manner as set out in paragraph 18-20 above.
24. The Applicant provided further information (**TAB 8**) on 14 November 2018, together with a draft Resource and Waste Management Plan ("RWMP") (**TAB 9**) and a draft Environmental Management Plan ("EMP") (**TAB 10**).
25. Further submissions were received from two parties, which are included in TAB 5.
26. RPS subsequently prepared the 'Kinsale Area Decommissioning Project Environmental Impact Assessment Technical Review Addendum' (**TAB 11**) the conclusions of which apply to both the Kinsale Head gas fields and the Seven Heads gas field.

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#### *Consultation with the Minister for Transport, Tourism and Sport*

27. On 29 November 2018, the Department consulted (**TAB 12**) with the Minister for Transport Tourism and Sport ("**TTAS**") on SHL's application to alter and remove certain facilities from a designated area under Section 5(2) of the Continental Shelf Act 1968, as amended. The Minister for TTAS sought further information which SHL provided on 18 January 2019 (**TAB 13**).
28. The Minister for TTAS has advised on 23 January 2019 (**TAB 14**) that they "*can see no adverse impact to navigation or fishing from the decommissioning activities as outlined in the attached response*". DTTAS requested that "*just before the decommissioning works commence a Marine Notice will be required to be written by the Department of Communications, Climate, Action and Environment highlighting the nature of the work involved and the approximate length of time the works will last*".
29. It is proposed that the Minister's consent to the application includes a requirement on the applicant to provide this information to the Minister for TTAS at the appropriate time in line with the request.

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*Environmental Impact Assessment*

*Measures to avoid, prevent and reduce adverse effects on the environment*

30. The RPS Technical review considered that the significant direct and indirect effects of the Decommissioning Plan on the environment are, and will be mitigated, as follows:

- a. The impacts of the physical presence in field and in transit of supply vessels, barge/or heavy lift vessels and drilling rig will be minimised and all activities will be undertaken in adherence to relevant legally required standards and controls;
- b. The physical presence of legacy materials left in situ will be remediated, stabilised and surveyed post decommissioning to accurately record their location and status;
- c. Potential significant negative effects from physical disturbance from the decommissioning including seabed disturbance will be mitigated by appropriate management measures as detailed in the draft EMP;
- d. Potential effects arising from underwater noise will be mitigated through careful forward planning of activities to minimise unnecessary journeys to minimise vessel days and associated noise emissions;
- e. Potential impacts to known cultural heritage features will be avoided during all ground and seabed disturbance activities. Measures to deal with unexpected discoveries are outlined in the EMP and additional measures to ensure no significant adverse effect on Cultural Heritage receptors are provided in the Environmental Conditions;
- f. Potential discharges to sea will be minor and will be subject to regulatory and policy controls including MARPOL<sup>5</sup> and PUDAC<sup>6</sup>;
- g. Waste will be managed in accordance with relevant waste legislation and measures outlined in the RWMP;
- h. To minimise potential effects from accidental events associated with the offshore decommissioning works, all activities will be undertaken in accordance with regulatory and policy controls;
- i. Measures envisaged to avoid, prevent or reduce and offset significant adverse effects on the environment are outlined in full in the draft EMP and the monitoring programme in presented Appendix B of the draft EMP.

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<sup>5</sup> The International Convention for the Prevention of Pollution from Ships

<sup>6</sup> Permit for use and discharge of added chemicals

### *Monitoring measures*

31. The Draft EMP contains a monitoring programme, which RPS has concluded is adequate. RPS have recommended that a detailed EMP for the Relevant Works is to be prepared by the contractor(s) based on the draft EMP which must be approved by the Minister in advance of any works on site.
32. The Minister for Culture, Heritage and the Gaeltacht has set out its requirements in terms of archaeological monitoring and these requirements will be included as a condition of consent. The Department has agreed with the Underwater Archaeology Unit of the Department of Culture, Heritage and the Gaeltacht the exact condition that should apply for this phase of decommissioning, which is set-out in condition C to the proposed consent further below.
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### *Summary of results of consultation, information gathered and manner dealt with*

33. A total of ten responses were received in the consultation with the public and prescribed bodies, with three of them relevant to the EIAR. A summary of these responses is set out below:

Observation / Submission	Response
<b>An Taisce</b>	
Concern at the short duration of the consultation process	<p>The statutory basis for the consultation period is set out SI141/1990 - POMDA (Section 13A) Regulations, 1990 prescribed time is set in law as one month from:</p> <ol style="list-style-type: none"><li>1. Date of issue of copy received by prescribed body</li><li>2. One month of publication in newspaper for public</li></ol> <p>The EIA Directive 2014/52 EU requires a minimum of 30 days consultation.</p>
There is poor level of baseline data on the environmental status of Irish marine area. This includes data on cetaceans as shown in Irelands 6 yearly Article 17 Habitats Directive reporting to the Europe Commission	<p>RPS assessed the adequacy of environmental baseline data included in the KADP-EIAR. Following this assessment further information was sought to inform the assessment of environmental impact.</p> <p>Following receipt of the further information RPS were satisfied as to its adequacy.</p>

The information accompanying this application does not address or identify any difficulties that were encountered in discovering the existence of the environmental information required to assess the impact of what is proposed.	<p>Further information as to the difficulties in compiling data/ information to support assessments was requested.</p> <p>Chapter 8 Section 8.2 of the Response to the RFI Report provides additional information and RPS are satisfied as to its adequacy.</p>
It is of concern that the environmental impacts, including impacts to species and habitats, of the final decommissioning methodology be properly assessed, and mitigation resolved in conjunction with the consent process, and not left to post consent agreement.	<p>Further information was sought from the Applicant to inform the environmental impact and appropriate assessment processes.</p> <p>A draft EMP and draft RWMP submitted. RPS recommends that the Minister approves the final plans before works commence as a condition of consent.</p>
<b>Department of Culture, Heritage and the Gaeltacht (DCHG) Development Applications Unit (DAU) on behalf of National Monuments Service (NMS)</b>	
The EIAR should include a ' <i>dedicated UAIA (Underwater Archaeological Impact Assessment) for the proposed works</i> '.	<p>Applicant asked to update and revise the Cultural Heritage section of the KADP-EIAR.</p> <p>An updated Cultural Heritage Assessment Report was submitted. Upon review of this DCHG indicated they had no objection to the KADP provided certain conditions are met. These conditions are recommended as conditions to the Ministers consent.</p>
<b>Department of Culture, Heritage and the Gaeltacht (DCHG) Development Applications Unit (DAU) on behalf of National Parks and Wildlife Service (NPWS)</b>	
Appropriate environmental management, monitoring and reporting thereon to the Consenting Authority should be carried out during the decommissioning and post-decommissioning process, inter alia to verify the efficacy and sustainability of environmental management actions associated with the proposed and agreed works.	Noted in the deliberations of RPS

<p><i>Attention is also drawn to this Department's published "Guidance to Manage the Risk to Marine Mammals from Man-Made Sound Sources in Irish Waters" (2014) which may be of relevance to potential noise-producing activities during and/or post-decommissioning (e.g., drilling, underwater acoustic/seismic surveys) and proper risk management where protected marine species are concerned.'</i></p>	<p>Noted in the deliberations of RPS</p>
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### *Environmental Conditions*

34. RPS have recommended the following conditions for the Relevant Works be attached to the Minister's consent:

- a. A detailed EMP is to be prepared by the contractor(s) based on the draft EMP, which will be provided to DCCAE for approval in advance of any works on site. Final approval of the EMP for the KADP lies with the DCCAE.
- b. All sources of natural materials to be used in the works, e.g. topsoil, subsoil, rock armour/ cover are to be sourced from suitably licenced facilities.
- c. The EMP must include conditions relating to Cultural Heritage as outlined below:
  - i. The services of a suitably qualified and suitably experienced maritime archaeologist are engaged to monitor all decommissioning works for wreck sites that less than 300m to proposed decommissioning infrastructure.
  - ii. The Applicant shall engage with the archaeologist by providing specifications in advance of the proposed decommissioning works, to allow the archaeologist to determine any mitigation strategies that may need to be put in place to protect identified shipwreck remains. In particular the wrecks, including the UC-42, that are in closest proximity to the decommissioning works (including any impacts from plant and machinery), shall have an exclusion zone imposed to ensure there is no impacts on the known location of the wreck. The Applicant shall be prepared to be advised by the consultant archaeologist in this regard.
  - iii. Provision shall be made to accommodate the monitoring archaeologist on board the decommissioning vessels to enable them to successfully carry out their work.
  - iv. The monitoring archaeologist shall have the power to have works suspended in a particular or for a particular element of the decommissioning programme,

should known or previously unknown underwater cultural heritage be identified or impacted. The Underwater Archaeology Unit shall be contacted immediately in this event.

- v. The archaeological monitoring shall be licensed by the Department of Culture, Heritage and the Gaeltacht and a detailed method statement containing the monitoring strategy shall accompany the licence application.
  - vi. As with previous requirements, the nature and extent of the foreshore decommissioning works are not clear. If there is to be impact along the nearshore and foreshore, then this should be subject to archaeological monitoring, and the methodology shall include details of this. The level and scale of archaeological monitoring for this element of the works can be determined once the scope of the works is clarified. The consultant archaeologist can address this in their method statement.
- d. A detailed RWMP is to be prepared by the contractor(s) based on the draft RWMP will be provided to DCCAE for approval in advance of any works on site. Final approval of the RWMP for the KADP lies with the DCCAE.

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#### *Technical Assessment*

35. On 21 March 2019, Selgovia, provided its review (**TAB 15**) on the application to decommission the facilities. Selgovia concluded that *“Overall there are no technical concerns with SHL’s consent application that would prevent the Minister for CCAE from consenting to the Consent Application. SHL’s proposed approach to decommissioning is conventional and consistent with that taken by Operators in the UK sector of the North Sea to date with similar aged infrastructure. The proposed methodology is also in-line with the requirements of OSPAR 98/3”*.
36. Selgovia note in their report that the proposed Decommissioning Plan is in accordance with OSPAR Decision 98/3. The elements that are subject to this application are neither being dumped nor left in wholly or partly in place.
37. Selgovia recommended that in granting Ministerial consent the following issues should be addressed through conditions to the Letter of Consent:
- a. Approval of any decommissioning plans should be conditional upon a satisfactory justification for the proposed Cessation of Production (CoP).
  - b. Approval of the Consent Application should be conditional upon decommissioning starting by a defined date agreed with SHL and all consented activities should be completed within three years of the start date.

- c. Decommissioning cost estimates and reporting should follow good oilfield practice. Clearly distinguishing between the Kinsale and Seven Heads leases should be a condition of consent. DCCAE should request an initial cost estimate for all proposed activities prior to the start of decommissioning works. DCCAE should also make it a condition of any consent that a monthly report of costs be provided, either as part of the proposed monthly activity reporting or else as a standalone report if including costs is a sensitive matter.
  - d. The proposed Decommissioning Close Out report makes no reference to wells or costs. Appropriate references to both wells and costs should be made in all reports related to the field decommissioning and this should be a condition of consent.
  - e. It may be possible for SHL to decommission some or even all of the wells without actually declaring CoP. DCCAE might wish to make consent to decommission the wells conditional upon some form of CoP to avoid such a situation arising.
  - f. DCCAE may wish to consider conditioning a suitable inspection and defining/agreeing a method and timing (e.g. after 12 months) to confirm integrity of all abandoned wells.
  - g. The Decommissioning Close Out report proposed by SHL in section 7.3 should also explicitly include the following:
    - i. An Operations Report
    - ii. A Verification Report on Operations.
  - h. It is understood that consent for the 'suspension' or 'temporary abandonment' of one former Exploration and Appraisal (E&A) well (48/23-3) has been given previously and that the well has already been plugged. However, it is understood that SHL considers its 'suspension' design to meet the technical requirements of a permanent abandonment. SHL will need to confirm this in writing.
  - i. SHL should continue to assume the possible presence of Low Specific Activity (LSA) or Naturally Occurring Radioactive Material (NORM) during any risk assessments undertaken prior to decommissioning operations at Seven Heads.
38. The Petroleum Affairs Division ("**PAD**") Technical Division have reviewed the application and Selgovia's assessment and have concluded (**TAB 16**) as follows:

*"PAD Technical is satisfied that Selgovia has carried out a comprehensive assessment of the Decommissioning Plan and that the conclusions and recommendations of Selgovia are acceptable. Selgovia recommends that all consented activities should be completed within three years of the start date, however without defining the start date it potentially leaves the completion of operations open ended. PAD Technical would therefore recommend that the start date be defined as the cessation of production operations. It is PAD Technical's view that from a practical sense a four year period would be a reasonable timeline to complete the consented activities in order to cover unforeseen delays associated with factors such as*



*specialised vessel availability and poor weather conditions. PAD Technical is therefore satisfied that there is no reason to withhold approval of the Decommissioning Plan from a technical perspective, subject to the following conditions:*

- i. Any consent granted should address the matters raised in Selgovia's Memorandum of 21 March 2019.*
- ii. All consented activities should be completed within four years of the cessation of production operations.*
- iii. All operations shall be conducted in accordance with the Department's Rules and Procedures. In particular, upon completion of well abandonment and subsea structure removal operations, each location shall be inspected by ROV in order to ensure that no debris remains in place. KEL shall submit the results of these inspections to the Minister in the form of Seabed Clearance Certificates before drilling unit/vessels leave the location.*
- iv. An additional survey shall be carried out no earlier than 6 months and no later than 24 months after the completion of well abandonment operations in order to confirm the integrity of the abandoned wells and the results of the survey shall be provided to the Minister."*

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#### *Non-Environmental Issues arising from Public Consultation*

39. In respect of the Decommissioning Plan, the responses seek that the facilities are kept for re-use, should there be a commercial gas discovery in the Celtic Sea in the future, and in particular the manifold and pipeline. In addition, SHL wrote three separate letters to the Minister on 18 October 2018, setting out their views on the observations received.
40. The parties seeking re-use of the facilities for a potential future find of oil and gas refer to facilities beyond those that form part of this application. The facilities in the Seven Heads gas field which form part of this application are limited to the wells and some subsea production structures. Whilst the potential for re-use of facilities in this application at Seven Heads remains, the Department's technical advisor notes that it seems unlikely this will be fully determined prior to the requirement to commit to decommissioning. The Department has carried out an analysis of the responses received (**TAB 17**).
41. The CRU is the competent authority in respect of effective safety regulatory oversight of operator and owner compliance in reducing the risk and potential consequences (including major environmental incidents) of major accidents offshore as well as assessment of the ongoing capacity of the Operator to meet the requirements of the Electricity Regulation Act 1999 (as amended) (the "**ERA**") for the carrying out of designated petroleum activities. The CRU responded to the public consultation and noted that:
- a. SHL require a safety permit from the CRU in order to commence decommissioning activities. The CRU awaits submission of the Decommissioning and Well Work Safety Cases and associated permit applications.

The applicant is legally obliged to have the required safety permits in place and there is therefore no requirement to have them as a condition to any consent granted.

#### **Other Relevant Matters**

42. SHL will submit a second application for the Remaining Works to decommission the Seven Heads Gas Field facilities (the pipelines & umbilicals). PAD's technical advisors have confirmed that the approval of this application will not prejudice the Minister's consideration of the second application which will be assessed and determined separately.
43. Financial security has been provided under-the Lease, and also the facilities decommissioning agreement, for the purposes of decommissioning. The purpose of such security is to ensure that funds are available to support the carrying out of decommissioning activities
44. In accordance with Sections 13A(8) and 13A(8A) of the POMDA, after taking a decision on an application, the Minister shall:
  - a. publish a notice of the decision in the Iris Oifigiúil and in at least one daily newspaper published in the State;
  - b. make the notice and information of the reasons for decision available for inspection on the Department's website and the DEPHLGs portal; and
  - c. the notice shall inform the public that a person may query the validity of a decision by way of an application for judicial review, and details where practical information on the review mechanism can be found.
45. The decision which has already been made separately by the Minister that no Appropriate Assessment is required will also be published alongside this decision.

#### **Reasoned Recommendation**

46. A comprehensive due diligence exercise has been carried out by the Department on the application including the receipt of external technical and legal advice and the carrying out of a public consultation, as described above. The matters raised in the public consultation have been carefully considered and an analysis of the responses have been conducted.
47. In relation to the EIA, RPS have concluded that, subject to the implementation of the mitigation measures proposed, as set out in the KADP EIAR and the draft EMP, and subject to compliance with the conditions set out above, the proposed Relevant Works associated with the Decommissioning Plan will not result in significant adverse effects on the environment. The Department is satisfied with and agrees with this conclusion and the conditions proposed.
48. It is recommended that the Minister grant consent, subject to the Lessee's compliance with the conditions set out further below.

## Approval Sought

The Minister of State confirms that:

- a. having regard to this submission including the TABs attached to it;
- b. having considered the content of the EIAR and the further information provided and having determined that it adequately identifies, describes and assesses the direct and indirect effects of the Relevant Works;
- c. having considered the content of the AA Screening Report, the separate submission to the Minister on the AA Screening Report and the Annex IV species assessment and the separate determination that no AA is required and that the assessment for Annex IV Species have been found to be of an acceptable standard such that he can be satisfied that there would be no significant adverse effects on Annex IV species, should approval be granted for the Decommissioning Plan;
- d. having considered the reports prepared by technical consultants, RPS Consultants and Selgovia;
- e. having regard to the following matters:
  - i. the nature, scale, extent and location of the Relevant Works;
  - ii. the particulars submitted with the application seeking approval for the Relevant Works;
  - iii. the additional material submitted in response to the request for further information; and
  - iv. the submissions and observations made in relation to the effects on the environment of the KADP including those made by other consent authorities, statutory consultees and members of the public, as described above.

The Minister to determine that he is satisfied:

- a. that the application is in line with OSPAR Convention Decision 98/3 which states *“the dumping, and the leaving wholly or partly in place, of disused offshore installations within the maritime area is prohibited”*;
- b. with the Decommissioning Plan submitted in accordance with the Lease granted under Section 13 of the POMDA;
- c. for the applicant to alter and remove certain facilities pursuant to Section 5(2) of the Continental Shelf Act 1968 from the area designated pursuant to Section 2 of S.I. No. 92/1993 - Continental Shelf (Designated Areas) Order, 1993;
- d. that, having carried out an EIA in relation to the Relevant Works, alone and in combination with other developments, he agrees with the conclusion of RPS Consultants

that, subject to the implementation of the mitigation measures proposed, as set out in the KADP EIAR and the draft EMP, and subject to compliance with the conditions set out above, the Relevant Works will not result in significant adverse effects on the environment;

- e. that there will be no significant effects, individually or in combination with other plans or projects on any European sites protected under the Habitats Directive or the Birds Directive, having regard inter alia to the European Union (Environmental Impact Assessment and Habitats) Regulations 2011 (SI No. 473 of 2011) and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) (SI 477/2011);
- f. that the Lessees have made provision for, the carrying out and meeting of (and demonstrate that they shall be able to meet) the costs of decommissioning of the facilities to the reasonable satisfaction of the Minister and in accordance with Good Industry Practice and Law, in accordance with Clause 18.1 of the Petroleum Lease;
- g. that the Minister is satisfied that the Lessee shall conduct its activities in an effective manner in accordance with Good Industry Practice, all provisions of the relevant Rules and Procedures Manual, and all applicable Laws in accordance with Clause 8.1 of the Petroleum Lease;
- h. that the Operator shall decommission the Facilities in accordance with the approved Decommissioning Plan, the Lease, any applicable Law and Good Industry Practice, in accordance with Section 8.1 of the Facilities Decommissioning Agreement;
- i. that the Decommissioning Plan will cover all other matters relevant to the proper preparation for and management of Decommissioning including, but not limited to, alternative uses for fixed Facilities, plugging of wells, removal of structures and pipelines (as agreed) and salvage of fixed Facilities, in accordance with Section 4.4.3(4) of the FDA; and,
- j. to accept and adopt the content and conclusions of the reports prepared by technical consultants, RPS Consultants and Selgovia.

Being satisfied regarding the matters outlined above, and having consulted with and received the consent of the Minister for Transport, Tourism and Sport in respect of safety of navigation, approve:

- (i) The 'Seven Heads Decommissioning Plan – Seven Heads Petroleum Lease' an addendum proposed by SHL to the Seven Heads Field Plan of Development, pursuant to the Petroleum Lease granted under Section 13 of the POMDA as amended which covers the decommissioning of certain facilities in the Seven Heads Gas field;
- (ii) That SHL may alter and remove facilities from the area designated pursuant to Section 2 of S.I. No. 92/1993 - Continental Shelf (Designated Areas) Order 1993, pursuant to Section 5(2) of the Continental Shelf Act 1968, as amended.

In giving such consent it is recommended that the Minister require that:

- a. A detailed Environmental Management Plan for the Relevant Works is to be prepared by the contractor(s) based on the draft EMP, which will be provided to DCCAE for approval by the Minister in advance of any works on site;
- b. That all sources of natural materials to be used in the works, e.g. topsoil, subsoil, rock armour/ cover are to be sourced from suitably licenced facilities and evidence of same is provided to the Minister;
- c. The services of a suitably qualified and suitably experienced maritime archaeologist shall be engaged to monitor all subsea Relevant Works for identified wreck sites that are less than 300m to proposed decommissioning infrastructure. The archaeologist shall be licensed by the Department of Culture, Heritage and the Gaeltacht. The Applicant shall engage with the archaeologist by providing specifications in advance of the proposed Relevant Works, to allow the archaeologist to determine any mitigation strategies that may need to be put in place to protect identified shipwreck remains. The applicant shall follow the advice of the consultant archaeologist in this regard. Provision shall be made to accommodate the monitoring archaeologist on board the decommissioning vessels to enable them to successfully carry out their work;
- d. A detailed Resource and Waste Management Plan for Relevant Works is to be prepared by the selected contractor(s) based on the draft RWMP will be provided to DCCAE and approval by the Minister in advance of any works on site;
- e. The Relevant Works shall not take place until the Minister has approved a Cessation of Operations application, in accordance with Section 8.8 of the Department's Rules and Procedures Manual for Offshore Petroleum Production Operations;
- f. The Relevant Works should be completed no later than 4 years after cessation of operations;
- g. An initial decommissioning cost estimate should be provided to the Minister prior to commencement of Relevant Works. Subsequent to this a monthly reports should be provided to the Minister including costs, which should distinguish between the petroleum lease granted for the Seven Heads field and the petroleum lease granted for the Kinsale field;
- h. The Decommissioning Close-Out report proposed by SHL should also explicitly include an decommissioning operations report with a verification report on decommissioning operations. The Decommissioning Close-Out report should include appropriate information acceptable to the Minister in relation to both wells and costs;
- i. Verification reports should be prepared by an independent party acceptable to the Minister;
- j. That the Operator (SHL) facilitate any authorised officer appointed by the Minister in accordance with Section 1.10 of the Rules and Procedures Manual;

- k. An additional survey shall be carried out no earlier than 6 months and no later than 24 months after the completion of well abandonment operations in order to confirm the integrity of the abandoned wells and the results of the survey shall be provided to the Minister;
- l. All operations shall be conducted in accordance with the Department's Rules and Procedures. In particular, upon completion of well abandonment and subsea structure removal operations, each location shall be inspected by ROV in order to ensure that no debris remains in place. SHL shall submit the results of these inspections to the Minister in the form of Seabed Clearance Certificates before drilling unit/vessels leave the location;
- m. Before the Relevant Works commence, the applicant should provide a draft Marine Notice(s) to the Minister for TTAS highlighting the nature of the work involved and the approximate length of time the works will last;
- n. SHL should continue to assume the possible presence of LSA or NORM during any risk assessments undertaken prior to decommissioning operations at Seven Heads. SHL should also confirm, and demonstrate, to the Department how SHL has factored the potential presence of LSA and NORM into its decommissioning operations;
- o. SHL to submit supporting evidence to the satisfaction of the Minister why it considers that the suspension design for Well 48/23-3 meets the technical requirements of a permanent abandonment.

Noel Regan  
Petroleum Affairs Division Policy and Regulation  
18 April 2019



26 April 2019

To: F.G. MURPHY  
PSE SEVEN HEADS LIMITED  
Mahon Industrial Estate  
Cork  
Ireland  
T12 PW92

**Seven Heads Gas Field Head Plan of Development**

- 1. Application for approval of an addendum to Plan of Development in accordance with Section 13 and 13A of the Petroleum and Other Minerals Development Act 1960, as amended ("POMDA") to decommission certain facilities; and**
- 2. Application for consent under Section 5(2) of the Continental Shelf Act 1968, as amended, to alter and remove certain facilities from a designated area.**

Dear Mr Murphy,

I refer to the abovementioned application dated 28 June 2018 seeking the Minister of State at the Department of Rural and Community Development and Department of Communications, Climate Action and Environment's (the "Minister") consent to undertake the scope of work detailed therein (the "Relevant Works") to decommission certain facilities in the Seven Heads Gas Field. Capitalised terms used in this letter are based on the submission to the Minister for the application appended to this letter.

I wish to inform you that the Minister having considered the following matters in respect of the Relevant Works:

- a. the submission appended to this letter including the TABs attached to it;
- b. the content of the EIAR and the further information provided and having determined that it adequately identifies, describes and assesses the direct and indirect effects of the Relevant Works;
- c. the content of the AA Screening Report accompanying the application, the separate submission to the Minister on the AA Screening Report and the Annex IV species assessment and the separate AA determination of the Minister dated 18 April 2019;
- d. the reports prepared by technical consultants, RPS Consultants and Selgovia;



e. and having regard to the following matters:

- i. the nature, scale, extent and location of the Relevant Works;
- ii. the particulars submitted with the application seeking approval for the Relevant Works;
- iii. the additional material submitted in response to the request for further information; and
- iv. the submissions and observations made in relation to the effects on the environment of the Decommissioning Plan including those made by other consent authorities, statutory consultees and members of the public, as described above.

determined on 23 April 2019 that he is satisfied:

- a. that the application is in line with OSPAR Convention Decision 98/3 which states *"the dumping, and the leaving wholly or partly in place, of disused offshore installations within the maritime area is prohibited"*;
- b. with the Decommissioning Plan submitted in accordance with the Lease granted under Section 13 of the POMDA;
- c. for the applicant to alter and remove certain facilities pursuant to Section 5(2) of the Continental Shelf Act 1968 from the area designated pursuant to Section 2 of S.I. No. 92/1993 - Continental Shelf (Designated Areas) Order, 1993;
- d. having carried out an EIA in relation to the Relevant Works, alone and in combination with other developments, he agrees with the conclusion of RPS Consultants that, subject to the implementation of the mitigation measures proposed, as set out in the EIAR and the draft EMP, and subject to compliance with the conditions set out below, the Relevant Works will not result in significant adverse effects on the environment;
- e. that it can be excluded on the basis of objective scientific information, following screening under the European Communities (Birds and Natural Habitats) Regulations, SI No. 477 of 2011 (as amended), that the Decommissioning Plan, individually or in combination with other plans or projects, will have a significant effect on a European site having regard inter alia to the European Union (Environmental Impact Assessment and Habitats) Regulations 2011 (SI No. 473 of 2011) and the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended) (SI 477/2011);
- f. that the assessment for Annex IV Species is of an acceptable standard such that he can be satisfied that there would be no significant adverse effects on Annex IV species;





- g. that the Lessees have made provision for, the carrying out and meeting of (and demonstrate that they shall be able to meet) the costs of decommissioning of the facilities to the reasonable satisfaction of the Minister and in accordance with Good Industry Practice and Law, in accordance with Clause 18.1 of the Petroleum Lease;
- h. that the Minister is satisfied that the Lessee shall conduct its activities in an effective manner in accordance with Good Industry Practice, all provisions of the relevant Rules and Procedures Manual, and all applicable Laws in accordance with Clause 8.1 of the Petroleum Lease;
- i. that the Operator shall decommission the Facilities in accordance with the approved Decommissioning Plan, the Lease, any applicable Law and Good Industry Practice, in accordance with Section 8.1 of the Facilities Decommissioning Agreement;
- j. that the Decommissioning Plan covers all other matters relevant to the proper preparation for and management of Decommissioning including, but not limited to, alternative uses for fixed Facilities, plugging of wells, removal of structures and pipelines (as agreed) and salvage of fixed Facilities, in accordance with Section 4 4.3(4) of the FDA; and,
- k. to accept and adopt the content and conclusions of the reports prepared by technical consultants, RPS Consultants and Selgovia.

Being satisfied regarding the matters outlined above, and having consulted with and received the consent of the Minister for Transport, Tourism and Sport in respect of safety of navigation, I am directed by the Minister to convey his consent to:

- (i) The 'Seven Heads Decommissioning Plan – Seven Heads Petroleum Lease' an addendum proposed by SHL to the Seven Heads Field Plan of Development, pursuant to the Petroleum Lease granted under Section 13 of the POMDA which covers the decommissioning of certain facilities in the Seven Heads Gas field;
- (ii) That SHL may alter and remove facilities from the area designated pursuant to Section 2 of S.I. No. 92/1993 - Continental Shelf (Designated Areas) Order 1993, pursuant to Section 5(2) of the Continental Shelf Act 1968, as amended.

Please note that this consent is conditional upon:

- 1. A detailed Environmental Management Plan for the Relevant Works is to be prepared by the contractor(s) based on the draft EMP, and shall be provided to DCCAE for approval by the Minister in advance of any works on site;



2. That all sources of natural materials to be used in the works, e.g. topsoil, subsoil, rock armour/ cover are to be sourced from suitably licenced facilities and evidence of same is provided to the Minister;
3. The services of a suitably qualified and suitably experienced maritime archaeologist shall be engaged to monitor all subsea Relevant Works for identified wreck sites that are less than 300m to proposed decommissioning infrastructure. The archaeologist shall be licensed by the Department of Culture, Heritage and the Gaeltacht. The Applicant shall engage with the archaeologist by providing specifications in advance of the proposed Relevant Works, to allow the archaeologist to determine any mitigation strategies that may need to be put in place to protect identified shipwreck remains. The applicant shall follow the advice of the consultant archaeologist in this regard. Provision shall be made to accommodate the monitoring archaeologist on board the decommissioning vessels to enable them to successfully carry out their work;
4. A detailed Resource and Waste Management Plan for Relevant Works is to be prepared by the selected contractor(s) based on the draft RWMP and shall be provided to DCCAE for approval by the Minister in advance of any works on site;
5. The Relevant Works shall not take place until the Minister has approved a Cessation of Operations application, in accordance with Section 8.8 of the Department's Rules and Procedures Manual for Offshore Petroleum Production Operations (the Rules and Procedures Manual");
6. The Relevant Works should be completed no later than 4 years after cessation of operations;
7. An initial decommissioning cost estimate should be provided to the Minister prior to commencement of Relevant Works. Subsequent to this a monthly reports should be provided to the Minister including costs, which should distinguish between the petroleum lease granted for the Seven Heads field and the petroleum lease granted for the Kinsale field;
8. The Decommissioning Close-Out report proposed by SHL should also explicitly include a decommissioning operations report with a verification report on decommissioning operations. The Decommissioning Close-Out report should include appropriate information acceptable to the Minister in relation to both wells and costs;
9. Verification reports should be prepared by an independent party acceptable to the Minister;
10. That the Operator (SHL) facilitate any authorised officer appointed by the Minister in accordance with Section 1.10 of the Rules and Procedures Manual;
11. An additional survey shall be carried out no earlier than 6 months and no later than 24 months after the completion of well abandonment operations in order to confirm the



integrity of the abandoned wells and the results of the survey shall be provided to the Minister;

12. All operations shall be conducted in accordance with the Department's Rules and Procedures Manual. In particular, upon completion of well abandonment and subsea structure removal operations, each location shall be inspected by ROV in order to ensure that no debris remains in place. SHL shall submit the results of these inspections to the Minister in the form of Seabed Clearance Certificates before drilling unit/vessels leave the location;
13. Before the Relevant Works commence, the applicant should provide a draft Marine Notice(s) to the Minister for Transport, Tourism and Sport highlighting the nature of the work involved and the approximate length of time the works will last;
14. SHL should continue to assume the possible presence of LSA or NORM during any risk assessments undertaken prior to decommissioning operations at Seven Heads. SHL should also confirm, and demonstrate, to the Department how SHL has factored the potential presence of LSA and NORM into its decommissioning operations;
15. SHL to submit supporting evidence to the satisfaction of the Minister why it considers that the suspension design for Well 48/23-3 meets the technical requirements of a permanent abandonment.

In accordance with Sections 13A(8) and 13A(8A) of the POMDA, the public must be informed of this decision and it will be published on the Department's website, DEPHLGs portal, a national newspaper and in Iris Oifigiúil.

Yours faithfully,

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Bill Morrissey

Principal Officer

Petroleum Affairs Division – Policy and Regulation

Department of Communications, Climate Action and Environment

**Attachment** – submission to Minister Seven Heads Decommissioning

<b>TAB</b>	<b>Document</b>
Tab 1	SHL Consent Application
Tab 2	Seven Heads Decommissioning Plan
Tab 3	Applicant EIAR (provided in hard copy to Minister)
Tab 4	Applicant EIAR Non-Technical Summary <sup>7</sup>
Tab 5	Submissions and observations received
Tab 6	RPS KADP EIAR Technical Review
TAB 7	DCCAE Further Information Request
Tab 8	Applicant Response to Further information request
Tab 9	Applicant Draft Resource and Waste Management Plan
Tab 10	Applicant Draft Environmental Management Plan
Tab 11	RPS KADP EIAR Technical Review Addendum
Tab 12	DCCAE Consultation with Minister of Transport
Tab 13	SHL Further information regarding navigation of Safety
Tab 14	Minister for TTAS response on navigation of safety
Tab 15	Selgovia Technical Assessment
Tab 16	PAD Technical Recommendation
Tab 17	Public Consultation Report

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<sup>7</sup> The full EIAR will be provided to the Minister in hard copy due to the file size.

## **Attachment B.2 Characteristics and Composition of the Substance or Material for Disposal**

Tables B.2.1 (a) to Table B.2.1 (d) below provides the information required by the First Schedule of the Dumping at Sea Act 1996, as amended.

The materials to be disposed of consist of a number of steel pipelines and control umbilicals (cables) which were formerly used in the production of natural gas from the Seven Heads gas fields.

The pipelines are made from carbon-steel, with protective anti-corrosion coatings. The umbilicals consist of bundled electrical cables and hydraulic hoses inside a protective sheath with steel-wire armouring; the umbilicals are generally laid alongside the pipelines.

Details of the materials of construction for each line are given in the following tables.

**Table B.2.1(a) Seven Heads Pipelines**

<b>Pipeline</b>	<b>Description</b>	<b>Length (km)</b>	<b>Weight (tonnes)</b>	<b>Material</b>
Seven Heads manifold to the Alpha Platform	18-inch	35	18,344	Grade ISO3183-3 L360 QCS steel 2.5mm three-layer polyethylene (3LPE) coating and concrete weight coating Aluminium - Zinc bracelet anodes
Seven Heads in-field pipelines	8-inch	25.78	1,707	Grade ISO3183-3 L360 QCS steel Three-layer polypropylene (3LP) Protective coating Aluminium - Zinc bracelet anodes

**Table B.2.1 (b) Seven Heads Pipelines**

Material	Steel grade ISO3183-3 L360 QCS (note 1)	Fusion bonded epoxy (note 2)	Copolymer adhesive (note 3)	Polyethylene (note 4)	Concrete coating (note 5)	Steel grade ISO3183-3 L360 QCS (Note 1)	Fusion bonded epoxy (note 2)	Copolymer adhesive (note 3)	Polypropylene (note 6)	(Mixture of aluminium and zinc) (note 9)
Quantity (tonnes)	6054	113 (note 7)			12,156	1666	35 (note 8)			27 (note 10)
Composition	C = 0.16 Si = 0.45 Mn = 1.65 S = 0.01 P = 0.02 V = 0.07 Nb = 0.05 Ti = 0.04 Fe = Balance	Formaldehyde, polymer with (chloromethyl)oxirane and phenol 40 – 80% Bisphenol-A- (epichlorhydrin), epoxy resin 20 – 60% C13/C15- Alkylglycidylether 1 – 20% Methyl toluene-4- sulphonate 1 – 10% Reaction product: bisphenol-A- (epichlorhydrin), epoxy resin (number average molecular weight ≤ 700)	Proprietary blend of polyolefinic polymers	(-CH <sub>2</sub> -CH <sub>2</sub> -) <sub>n</sub>	CaO = 62 SiO <sub>2</sub> = 22 Al <sub>2</sub> O <sub>3</sub> = 5 CaSO <sub>4</sub> = 4 Fe <sub>2</sub> O <sub>3</sub> = 3 MgO = 2 S = 1 Alkalines = 1	C = 0.16 Si = 0.45 Mn = 1.65 S = 0.01 P = 0.02 V = 0.07 Nb = 0.05 Ti = 0.04 Fe = Balance	Formaldehyde, polymer with (chloromethyl)oxirane and phenol 40 – 80% Bisphenol-A- (epichlorhydrin), epoxy resin 20 – 60% C13/C15- Alkylglycidylether 1 – 20% Methyl toluene-4- sulphonate 1 – 10% Reaction product: bisphenol-A- (epichlorhydrin), epoxy resin (number average molecular weight ≤ 700)	Proprietary blend of polyolefinic polymers	(-CHCH <sub>3</sub> CH <sub>2</sub> - ) <sub>n</sub>	Fe 0.09% Si 0.08 – 0.120% Cu 0.003% Zn 4.5 – 5.5% In 0.015 – 0.020% Others (each) 0.02% max Al Remainder
Material form	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid	Solid
Solubility	Not soluble	Not soluble	Insoluble	Not soluble	Concrete solubility is related to time of exposure in water.	Not soluble	Not soluble	Insoluble	Not soluble	Insoluble in cold water
Specific gravity/density	8,050 kg/m <sup>3</sup>	1.12kg/m <sup>3</sup>	<1g/cm <sup>3</sup>	0.91 to 0.97g/cm <sup>3</sup>	2,400 kg/m <sup>3</sup>	8,050 kg/m <sup>3</sup>	1.12kg/m <sup>3</sup>	<1g/cm <sup>3</sup>	0.88 – 0.913 g/cm <sup>3</sup>	2700 - 2750 kg/m <sup>3</sup>
BOD/COD	No data	No data	Not expected to be biodegradable	No data	No data	No data	No data	Not expected to be biodegradable	No data	Not available
Nutrients	No data	No data	Not expected to be biodegradable	No data	No data	No data	No data	Not expected to be biodegradable	No data	Not available
Biological properties	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No know presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites

Material	Steel grade ISO3183-3 L360 QCS (note 1)	Fusion bonded epoxy (note 2)	Copolymer adhesive (note 3)	Polyethylene (note 4)	Concrete coating (note 5)	Steel grade ISO3183-3 L360 QCS (Note 1)	Fusion bonded epoxy (note 2)	Copolymer adhesive (note 3)	Polypropylene (note 6)	(Mixture of aluminium and zinc) (note 9)
Radioactivity	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive
Toxicity	N/a	H411 -Toxic to aquatic life with long lasting effects. H412 - Harmful to aquatic life with long lasting effect	Not classified	Not toxic	Set concrete is not expected to be toxic to aquatic organisms.	N/a	H411 -Toxic to aquatic life with long lasting effects. H412 - Harmful to aquatic life with long lasting effect	Not classified	Not toxic	Not available. The products of degradation are less toxic than the product itself
Persistence in the environment (physical, chemical and biological)	Once the protective coating breaks down, the steel will corrode to give iron oxide and hydroxide compounds.	H411 -Toxic to aquatic life with long lasting effects. H412 - Harmful to aquatic life with long lasting effect (note 11)	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).	Not readily biodegradable. Persistent in the environment	Sea water contains sulphates and could be expected to attack concrete because chlorides are also present, sea-water attack does not generally cause expansion of the concrete.	Once the protective coating breaks down, the steel will corrode to give iron oxide and hydroxide compounds.	H411 -Toxic to aquatic life with long lasting effects. H412 - Harmful to aquatic life with long lasting effect (note 11)	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).	Not readily biodegradable. Persistent in the environment	Anode will erode in seawater due to galvanic action
Accumulation and biotransformation in biological materials or sediments	No data		This material is not expected to bioaccumulate.	No data	No data	No data	No data	This material is not expected to bioaccumulate.	No data	No data
Chemical and physical changes of the substance or material after release, including formation of new compounds	Once the protective coating breaks down, the steel will corrode to	There are no expected chemical or physical changes after release	Not expected to decompose under normal conditions.	There are no expected chemical or physical changes after release	Sea water contains sulphates and could be expected to attack concrete	Once the protective coating breaks down, the steel will corrode to	There are no expected chemical or physical changes after release	Not expected to decompose under normal conditions.	There are no expected chemical or physical changes after release	Possibly hazardous short term degradation products are not likely. However,

Material	Steel grade ISO3183-3 L360 QCS (note 1)	Fusion bonded epoxy (note 2)	Copolymer adhesive (note 3)	Polyethylene (note 4)	Concrete coating (note 5)	Steel grade ISO3183-3 L360 QCS (Note 1)	Fusion bonded epoxy (note 2)	Copolymer adhesive (note 3)	Polypropylene (note 6)	(Mixture of aluminium and zinc) (note 9)
	give iron oxide and hydroxide compounds.				because chlorides are also present, sea-water attack does not generally cause expansion of the concrete.	give iron oxide and hydroxide compounds.				long term degradation products may arise
Probability of production of taints or other changes reducing marketability of resources (e.g., fish, shellfish)	Low - the corrosion products are not expected to cause tainting and the dilution available will be considerable	Low – if the epoxy breaks down eventually, the dilution available will be considerable	If the copolymer breaks down eventually, the dilution available will be considerable	Low – if the polypropylene breaks down eventually, the dilution available will be considerable	Low - if the concrete breaks down eventually, the dilution available will be considerable	Low - the corrosion products are not expected to cause tainting and the dilution available will be considerable	Low – if the epoxy breaks down eventually, the dilution available will be considerable	If the copolymer breaks down eventually, the dilution available will be considerable	Low – if the polypropylene breaks down eventually, the dilution available will be considerable	Anode will erode in seawater, the dilution available for degradation products will be considerable

Note 1: Typical data for grade L360 steel (equivalent to grade X52) source: [http://www.steelnumber.com/en/steel\\_composition\\_eu.php?name\\_id=690](http://www.steelnumber.com/en/steel_composition_eu.php?name_id=690)

Note 2: Typical data for general purpose epoxy resin: source <http://www.resin-supplies.co.uk/HSDS%20pdfs/ER%20RESIN%20MSDS.pdf>

Note 3: Data for hifax EP2015/60 version 1.3 rev date 05/22/2020 print date 07/29/2021 SDS No BE5486Lyondellbasel

Note 4: Typical data for polyethylene <https://korellis.com/wp-content/uploads/2016/01/POLYETHYLENE.pdf>

Note 5: Typical data for general purpose Portland cement concrete. source [bing.com/images](http://bing.com/images)

Note 6: Typical data for polypropylene. Source: <https://advancedpetrochem.com/sites/default/files/MSDS%20Advanced-PP%20Homopolymer%20Updated%20April%202016.pdf>

Note 7: Weight of 3LPE coating. The 3LPE coating consists of fusion bonded epoxy, copolymer adhesive and polyethylene.

Note 8: Weight of 3LPP coating. The 3LPP coating consists of fusion bonded epoxy, copolymer adhesive and polypropylene.

Note 9: Generic data for aluminium zinc anodes [http://www.nedmarine.com/\\_images/user/NMS%20MAGAZINE%20ANODES.pdf](http://www.nedmarine.com/_images/user/NMS%20MAGAZINE%20ANODES.pdf)

Note 10: The total anode weight is the weight when the anodes were installed, prior to any erosion.



Note 11: Fusion bonded epoxy (FBE), Fusion bonded epoxy (FBE) is a protective coating applied to pipelines onshore. The coating is applied as a powder (consisting of polymer resins, a curing agent, extenders, fillers and pigments). FBE coatings are "thermoset polymers" which are applied at 180°-250°C, causing the powder constituents to melt. The liquid flows over the metal surface and during cooling transforms to a solid through element cross-linking "fusion bonding". The cross-linking that occurs in the chemicals cannot be reversed, further heating will not melt the coating. The solid material is considered inert, is not readily degradable and is not considered to be a marine pollutant.

**Table B.2.1(c) Seven Heads Umbilicals**

Field Area	Description	Length (km)	Weight (tonne)	Material	Content of hoses m <sup>3</sup>	
Main Umbilical 123.5mm diameter	From Seven Heads manifold to Alpha	35	736	Outer Polypropylene (PP) rovings on bitumen bedding Binding tape 2 layers of 3.15mm steel armour wire Inner PP Rovings 2 x 19 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 Binding tape 3 x 16mm <sup>2</sup> power pairs 2 x 6mm <sup>2</sup> signal pairs	HW-540 MeOH MEG	18.263 4.434 2.217
Infield Umbilicals 93.2mm diameter	-	25.78	410	Outer Polypropylene rovings on bitumen bedding 2 layers of 4mm steel armour wire Inner PP Rovings 1 x 12.7mm NB hose 1 x 19mm NB hose Oversheath 2 x 9.5mm NB hose 3 x 12.7mm NB hoses Rope fillers 2 x 6mm <sup>2</sup> quads Binding tape String fillers	HW-540 MeOH MEG	13.452 0.644 0.764

**Table B.2.1(d) Seven Heads Umbilical Components**

Component	Material
Hoses:	
Hose liner	Finathene 3802 YCF
Inner braid	Kevlar T925
Outer braid	Kevlar T925
Hose cover	Finathene 3802 B
Cables:	
Electrical core	Copper wire
Insulation	LDPE
Inner sheath	PVC plastomeric compound
Screen	Copper tape
Outer sheath	HDPE
Fillers	
	PVC fillers MPS/01/27
	Polypropylene
Armouring	
	Bitumen bedding
	Outer and inner polypropylene roving
	Galvanised steel armour wires
	Binding tape

**Table B.2.1(e) Seven Heads Umbilicals Part 1**

Material	Finathene 3802 YCF (high density polyethylene) (note 1)	Kevlar (note 2)	Copper (note 3)	LDPE (low density polyethylene) (note 4)	PVC plastomeric compound (note 5)
Amount (tonnes)	Total umbilicals weight = 1,105				
Composition	Polyethene >= 99% Additives 0 – 1%	Poly-para-phenylene terephthalamide (note 2)	Copper	Polyethene >= 99% Additives 0 – 1%	Polyvinylchloride
Material form	Solid	Solid	Solid	Solid	Solid
Solubility	Insoluble in water	Insoluble in water	Insoluble in water	Negligible in water	Insoluble in water
Specific gravity/density	0.91 – 0.97 g/cm <sup>3</sup>	1.44g/cm <sup>3</sup>	8.94g/cm <sup>3</sup>	0.91 – 0.93 g/cm <sup>3</sup>	1.4g/cm <sup>3</sup>
BOD/COD	Due to the negligible solubility in water, it is expected to have a low BOD and will not cause oxygen depletion in aquatic systems.	Due to the negligible solubility in water, it is expected to have a low BOD and will not cause oxygen depletion in aquatic systems.	Due to the negligible solubility in water, it is expected to have a low BOD and will not cause oxygen depletion in aquatic systems.	No data	No data
Nutrients	No data	No data	No data	No data	No data
Biological properties	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites
Radioactivity	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive
Toxicity	Material is not expected to be harmful to aquatic organisms	Contains no substances known to be hazardous for the environment.	Copper metal is relatively insoluble in water and, therefore, generally has low bioavailability. However, long-term exposure in aquatic and terrestrial environments or processing of the product can lead to the release of the constituent copper in more bioavailable forms. These more bioavailable forms have the potential to yield toxic effects under specific chemical conditions (e.g., low pH). The mobility of the copper compounds in soluble forms is also media-dependent. They can bind with inorganic and organic ligands, reducing their mobility and bioavailability in both soil and water. Bioavailability is also regulated by other factors in the aquatic environment, such as hardness and dissolved organic carbon content	Not expected to be harmful to aquatic organisms.	Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008
Persistence in the environment (physical, chemical and biological)	Material is not volatile, insoluble in water, and resistant to biodegradation	Not readily biodegradable.	Copper metal is relatively insoluble in water	Expected to be persistent	Not readily biodegradable in water. Due to insufficient data no statement can be made whether the substance fulfils the criteria of PBT and vPvB according to Annex XIII of Regulation (EC) No 1907/2006.

Accumulation and biotransformation in biological materials or sediments	No data	No data	Refer to 'toxicity' above	Potential to bioaccumulate is low	Not bioaccumulative
Chemical and physical changes of the substance or material after release, including formation of new compounds	There are no expected chemical or physical changes after release	There are no expected chemical or physical changes after release	There are no expected chemical or physical changes after release	There are no expected chemical or physical changes after release	There are no expected chemical or physical changes after release
Probability of production of taints or other changes reducing marketability of resources (e.g., fish, shellfish)	Low – if the HDPE breaks down eventually, the dilution available will be considerable	Low – if the aramid breaks down eventually, the dilution available will be considerable	Low – if the copper breaks down eventually, the dilution available will be considerable	Low – if the LDPE breaks down eventually, the dilution available will be considerable	Low – if the PVC breaks down eventually, the dilution available will be considerable

Note 1: Data for Finathene 3802 not available. Data for generic HDPE pipes: [SDS-PE-204-SM5508 \(Rev.01\).pdf \(chandra-asri.com\)](#)

Note 2: Data for generic aramid/Kevlar material [https://www.dupont.com/content/dam/dupont/amer/us/en/safety/public/documents/en/Kevlar\\_Technical\\_Guide\\_0319.pdf](https://www.dupont.com/content/dam/dupont/amer/us/en/safety/public/documents/en/Kevlar_Technical_Guide_0319.pdf); Data for generic aramid material: <https://www.finitefiber.com/images/pdf/Aramid-SDS.pdf>

Note 3: Copper [https://www.teck.com/media/2015-Products-Copper\\_Metal\\_SDS\\_-\\_2.1.1.pdf](https://www.teck.com/media/2015-Products-Copper_Metal_SDS_-_2.1.1.pdf)

Note 4: Generic data for low density polyethylene. [Microsoft Word - MSDS LD637 \(b2bcomposites.com\)](#)

Note 5: No data sheet for PVC plastomeric compound. Data for generic PVC: [https://www.vynova-group.com/hubfs/02\\_Website\\_Pages/Products/PVC/Documents/vynova\\_polyvinylchloride\\_GB\\_rev0100\\_2015-830.pdf?hsCtaTracking=1b4e11ef-1379-48c1-af73-2e07fcedcab6%7C53beaf85-8f40-4c2c-bbcb-71dd2f9547bc](https://www.vynova-group.com/hubfs/02_Website_Pages/Products/PVC/Documents/vynova_polyvinylchloride_GB_rev0100_2015-830.pdf?hsCtaTracking=1b4e11ef-1379-48c1-af73-2e07fcedcab6%7C53beaf85-8f40-4c2c-bbcb-71dd2f9547bc)

**Table B.2.1(e) Seven Heads Umbilicals Part 2**

Material	PVC Fillers REF: MPS/01/27 (note 6)	Polypropylene (note 7)	Bitumen (note 8)	Steel wires (note 9)	MeOH (note 10)	HW-540 V3 (note 11)	MEG (note 12)
Amount (tonnes)	Total umbilicals weight: See Part 1 of this table				4.01	33.62	3.3
Composition	Polyvinylchloride	(-CHCH <sub>3</sub> CH <sub>2</sub> -) <sub>n</sub>	Solvent naphtha (petroleum), medium aliph.	Fe with additives	Methanol	Ethanediol: ≥25-≤50% 2-butoxyethanol ≤3% Reaction products of paraformaldehyde and 2-hydroxypropylamine (ratio 3:2); [MBO] 0.21% Molybdenum trioxide, reaction products with bis[O,O-bis (2-ethylhexyl)] hydrogen dithiophosphate ≤0.3%	Monoethylene glycol
Material form	Solid	Solid	solid	Solid	Liquid	Liquid	Liquid
Solubility	Insoluble in water	Not soluble	Insoluble in cold water	Not soluble	Miscible in any proportion	Not available	Miscible with water
Specific gravity/density	1.4g/cm <sup>3</sup>	0.88 – 0.91 g/cm <sup>3</sup>	0.9 g/cm <sup>3</sup>	7850 kg/m <sup>3</sup>	0.79g/cm <sup>3</sup>	1.06g/cm <sup>3</sup> @ 15.6°C	1.115g/cm <sup>3</sup>
BOD/COD	No data	No data	No data	No data	BOD: 1.236 mg/g at 5d	Not determined	BOD28/COD = 56- 64%; COD= 1.29 g O <sub>2</sub> /g
Nutrients	No data	No data	No data	No data	No data	Not determined	No data
Biological properties	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites	No known presence of viruses, yeasts, bacteria, parasites
Radioactivity	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive	Not radioactive
Toxicity	Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008	Not toxic	H411 -Toxic to aquatic life with long lasting effects. (Note 13)	No data	Not be classified as hazardous to the aquatic environment	H412 Harmful to aquatic life with long lasting effects., H413 May cause long lasting harmful effects to aquatic life. (Note 14)	Not regarded as dangerous for the environment
Persistence in the environment (physical, chemical and biological)	Not readily biodegradable in water. Due to insufficient data no statement can be made whether the substance fulfils the criteria of PBT and vPvB according to Annex XIII of Regulation (EC) No 1907/2006.	Not readily biodegradable.	No data	Once the protective coating breaks down, the steel will corrode to give iron oxide and hydroxide compounds.	Readily biodegradable	PBT and vPvB not applicable	Expected to readily biodegrade

Material	PVC Fillers REF: MPS/01/27 (note 6)	Polypropylene (note 7)	Bitumen (note 8)	Steel wires (note 9)	MeOH (note 10)	HW-540 V3 (note 11)	MEG (note 12)
Accumulation and biotransformation in biological materials or sediments	Not bioaccumulative	No data	No data	No data	Does not significantly accumulate in organisms	Low potential to bioaccumulate	No data
Chemical and physical changes of the substance or material after release, including formation of new compounds	There are no expected chemical or physical changes after release	There are no expected chemical or physical changes after release	There are no expected chemical or physical changes after release	Once the protective coating breaks down, the steel will corrode to give iron oxide and hydroxide compounds.	Expected to biodegrade	Readily biodegradable	Expected to readily biodegrade
Probability of production of taints or other changes reducing marketability of resources (e.g., fish, shellfish)	Low – if the PVC breaks down eventually, the dilution available will be considerable	Low – if the polypropylene breaks down eventually, the dilution available will be considerable	Low – if the bitumen breaks down eventually, the dilution available will be considerable	Low - the corrosion products are not expected to cause tainting and the dilution available will be considerable	Low – the dilution available will be considerable	Low – the dilution available will be considerable	Low – the dilution available will be considerable

Note 6: Generic data for PVC [https://www.vynova-group.com/hubfs/02\\_Website\\_Pages/Products/PVC/Documents/vynova\\_polyvinylchloride\\_GB\\_rev0100\\_2015-830.pdf?hsCtaTracking=1b4e11ef-1379-48c1-af73-2e07fcedcab6%7C53beaf85-8f40-4c2c-bbcb-71dd2f9547bc](https://www.vynova-group.com/hubfs/02_Website_Pages/Products/PVC/Documents/vynova_polyvinylchloride_GB_rev0100_2015-830.pdf?hsCtaTracking=1b4e11ef-1379-48c1-af73-2e07fcedcab6%7C53beaf85-8f40-4c2c-bbcb-71dd2f9547bc)

Note 7: Generic data for polypropylene. Source: <https://www.technologysupplies.com/downloads/msds/SDS0217.pdf>

Note 8: Generic data for bitumen. Source [JOHNSTONES-PERFORMANCE-Black-Bitumen-17000DUP009-v1-01.pdf \(johnstonestrade.com\)](#)

Note 9: Assume the same as grade X52 steel

Note 10: Generic data for methanol [Safety Data Sheet: Methanol \(carlroth.com\)](#)

Note 11: MacDermid Offshore Solutions Oceanic HW 540 Safety Data Sheet, date of revision 1/28/2019

Note 12: Generic data for MEG [MEG MSDS.pdf \(smithandallan.com\)](#)

Note 13: Bitumen (asphalt) is a dark semisolid or solid which is naturally occurring but mainly produced through the distillation of crude oil. Bitumen has a complex chemical makeup, predominantly higher molecular weight maltene and asphaltene compounds which are resistant to biodegradation and dissolution (hence the use of bitumen as a road building material). Fresh bitumen also contains small amounts of a range of lower molecular weight hydrocarbons such as 3-5 ringed alkyl polycyclic aromatic hydrocarbons, and naphthenic acids. These have differing aqueous solubilities and potential toxicity to marine organisms but given the decades the umbilical associated bitumen has been in the sea, the material can be considered inert and not to pose a hazard to marine life.

Note 14: As part of the decommissioning programme, most of the contents of the umbilicals were displaced into a well, which was then plugged and sealed, or were recovered at the platform and disposed of onshore. The umbilicals to be left in situ contain residual water based hydraulic fluid, Oceanic HW540 v3 which was used to operate valves on subsea production wells in the Seven heads field. At least 95% of the constituents of Oceanic HW540 v3 are on the OSPAR PLONOR list (considered to pose little or no risk to the environment) and over 99% of the components are OCNS E rated. The product has been identified for substitution due to three components, molybdenum trioxide, ethanediol (=ethylene glycol) and 2-butoxyethanol not meeting pre-screening requirements. A review of the Safety Data Sheets and European Union Risk Assessment Reports for the 3 components indicates that molybdenum trioxide has a relatively low toxicity (PNEC for marine sediment of 2.37 g/kg dry wt), does not biomagnify in aquatic food chains and, under normal environmental conditions, transforms to molybdenum disulphide, a ubiquitous non-toxic naturally-occurring mineral. The other 2 compounds are readily biodegradable, with a low bioaccumulation potential and moderate to low toxicity to marine species.

## **Attachment C.1 Alternative Measures**

### **C.1.1 Introduction**

The alternatives to retaining in place the pipelines and umbilicals, which were considered by Kinsale Energy, are described in this attachment.

### **C.1.2 ‘Do Nothing’ Alternative**

The Seven Heads gas fields and facilities, part of the Kinsale Area gas fields and facilities, were operated in accordance with a petroleum lease, the Seven Heads Petroleum Lease granted in 2002.

It was a requirement of the lease that the facilities be decommissioned, and the decommissioning plans had to be submitted to the Minister for approval. In the context of the Kinsale Area gas fields and facilities therefore, the ‘do nothing’ alternative was not an alternative which would have complied with the petroleum lease.

### **C.1.3 Alternatives to retaining the Pipelines and Umbilicals in place**

#### **Introduction**

There were a number of alternative approaches to decommissioning of the Kinsale Area pipelines and umbilicals. The decommissioning alternatives considered for the pipelines and umbilicals were full removal, partial removal or leave in situ. In order to decide on the best approach, a Comparative Assessment (CA) of different options was undertaken. The CA followed a systematic process, in which the safety, environmental, technical, social aspects and cost of the various options were evaluated. The process was documented in a CA report<sup>1</sup> (refer to Appendix 1), which includes the scoring methodology and scoring matrices for each of the options, and a narrative expanding upon the implications of each of the options.

#### **Comparative Assessment**

The framework for the CA drew on OSPAR 98/3 and Oil and Gas UK (OGUK 2015<sup>2</sup>) guidance, with a scoring system to assess each of the proposed decommissioning options covering safety, environment, technical, societal and economic criteria. The technical feasibility of any option was also considered in relation to industry experience to date, including from proposed approaches to the decommissioning of pipelines for fields in the North Sea, and related summary reports of experience to date (e.g. OGUK 2013).

Initially a set of 45 individual option considerations relating to each individual pipeline and umbilical were evaluated as part of the CA process, including various combinations of full removal, partial removal and leave in situ. On review of the initial results from this CA process it was considered that certain pipelines and umbilicals could be grouped and assessed together in view of their similarity (e.g. type and burial status). Additionally, with the exception of Ballycotton, all umbilicals are laid next to their associated pipelines and share the same protection materials (e.g. rock or concrete mattresses). In practice, it is unlikely that the decommissioning of the umbilicals would take place separately and it was regarded that these could be assessed alongside their respective pipelines.

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<sup>1</sup> Kinsale Area Decommissioning Project Comparative Assessment Report, Hartley Anderson and Arup, 2018

<sup>2</sup> OGUK (2015). Guidelines for Comparative Assessment in Decommissioning Programmes.  
Issue 1, 49pp.



Moreover, the similarity in the decommissioning options for each pipeline and umbilical resulted in initial CA scoring which was either not significantly different or the same for multiple options. For these reasons, umbilicals and pipelines were considered together.

The grouping resulted in two types of offshore pipeline/umbilical being defined along with their associated options:

- pipelines which are surface laid or exposed along much of their length and,
- pipelines and umbilicals which are largely under protective materials or buried.

In addition to refining the process by grouping similar pipelines/umbilicals, the initial consideration also allowed for the further definition of options for these groups.

For example, the consideration of partial removal for those pipelines largely under protective materials or buried was not considered to be appropriate (e.g. as the results would not be appreciably different to the full removal option), and the results from the initial consideration also noted that the additional safety, technical and environmental risks from partial removal did not result in significant risk reduction, for example, compared to the equivalent option using rock cover. The following options were taken forward for further consideration in the final CA:

For surface laid pipelines and those exposed along much of their length:

- fully remove,
- leave in situ and rock cover those sections which are >50% exposed as well as pipe ends,
- leave in situ and rock cover pipe ends and any free spans

For pipelines and umbilicals largely under protective materials or buried:

- fully remove,
- leave in situ and rock cover pipe ends and any free spans (where applicable)

Criteria for evaluating the potential impact of the various options were developed for safety, environment, technical feasibility, society and cost categories. The CA used a scoring matrix (see OGUK 2015). For each of these categories, a number of sub-categories were incorporated. The sub-categories were scored using a five-point classification based on the relative risk or expected magnitude of effect from each option. The criteria and scoring matrix is shown in Table C.1.1.

The sub-criteria were scored on a five-point scale ranging from 1 (Very Low) through to 5 (Very High), where 1 represents best performance/least significant impact/lowest risk and 5 worst performance/largest significant impact/highest risk. Scores for the sub-criteria were then weighted according to the level of definition and understanding of methods, equipment and hazards ("uncertainty").

**Table C.1.1: Comparative Assessment Relative Risk and Impact Criteria Scoring**

Criteria	Sub Criteria	Very Low	Low	Medium	High	Very High
		1	2	3	4	5
Safety	Risk to personnel offshore during decommissioning operations (Potential Loss of Life (PLL))	>0.00001	>0.0001	>0.001	>0.01	>0.1
Safety	Risk to personnel onshore during decommissioning operations	No risk. No onshore disposal elements	Minor/first aid. Handling <500 tonnes of material	Medical aid/lost time injury. Handling >500 tonnes of material.	Permanent disability/fatality	Multiple fatalities
Safety	Risk to divers during decommissioning operations (PLL)	>0.00001	>0.0001	>0.001	>0.01	>0.1
Safety	Risk to 3rd parties and assets during decommissioning operations	No risk	Loss of access to operational area	Interference with 3 <sup>rd</sup> party operations altering safety risk	Damage to 3rd party asset/damage to vessel	Damage to 3 <sup>rd</sup> party asset requiring remediation/loss of vessel
Safety	Residual risk to 3rd parties	No risk	Potential snagging risk	Damage/loss of fishing gear	Damage to vessel	Loss of vessel
Environment	Chemical discharge	None	PLONOR* chemicals only	No warnings or substitution labels RQ<1	Warning labels RQ>1	Warnings and substitution labels RQ>1
Environment	Seabed disturbance and/or habitat alteration including cumulative impact	0 - 1% of existing footprint	1 - 10% of existing footprint	10% - 50% of existing footprint	>50% - 100% of existing footprint	>100% of existing footprint
Environment	Total CO2 Emissions (resulting from energy consumption associated with vessels, treatment of recovered material and rock cover)	<1000t	1,000-5,000t	>5,000-10,000t	>10,000-25,000t	>25,000t
Environment	Proportion of potential recyclable material returned	>80%	50% - 80%	30% - <50%	10% - <30%	<10%
Environment	Proportion of total landfill material returned	<10%	10% - <30%	30% - <50%	50% - 80%	>80%

Criteria	Sub Criteria	Very Low	Low	Medium	High	Very High
		1	2	3	4	5
Environment	Conservation sites and species (including noise effects)	No impact	Potential effects but unlikely to be detectable as within normal variability	Minor detectable effects with rapid recovery	Effects detectable, not affecting site integrity or species population	Significant effects on site integrity or population
Environment	Loss of containment to the environment of chemicals, hydrocarbons	None	Slight Impact Reportable spill	Minor Impact/ Localised Impact Spill requiring Tier 1 response	Major Impact Spill requiring Tier 2 response	Massive Impact Spill requiring Tier 3 response
Technical	Technical feasibility	Routine operations with high confidence of outcomes Very low risk of failure. Low technical complexity	Routine operations with good confidence of outcomes Low risk of failure.	Non-routine operations but with good experience base Low risk of failure. Medium technical complexity	Non-routine operations with limited experience base Moderate risk of failure.	Untried technique Higher risk of failure. High technical complexity
Technical	Weather sensitivity	Operations not weather sensitive	Operations are little affected by weather	Requires good weather window	Requires typical summer good weather window	Requires long good weather window
Societal	Residual effect on fishing, navigation or other access (including cumulative)	No effect	Access to area unrestricted	Access to area with charted obstructions	Access to area with uncharted debris and obstructions	Closed access to area
Societal	Coastal communities	No impact	Impacts within normal variability of onshore operations	Short term nuisance during onshore operations	Medium term nuisance during onshore operations	Long term nuisance during onshore operations
Economic	Total cost	<€2million	€2-5 million	€5-10 million	€10-20 million	>€20 million
Economic	Residual liability including monitoring and remediation if necessary	No residual liability	Surveys and remediation unlikely to be required	Survey requirement anticipated but at declining frequency	Surveys and remediation likely to be required in each 5 year period	Annual survey and potential for remedial work

\*PLONOR: Pose little or no risk

The overarching conclusion of the CA process was that the full removal options had the highest potential impact (reflected in these scoring worst using the CA criteria, particularly in respect of environment and health and safety, but also in technical and economic criteria) and were therefore least preferable with key findings summarised as follows:

- The full removal option represented the highest safety risk to personnel involved in the removal and recycling of the infrastructure and greatest technical risk due to relatively limited experience to date, particularly in the removal of large pipelines.
- While the methods for removing pipelines are transferrable from standard procedure elsewhere in the oil and gas industry, their implementation at the scale proposed by the option is not, and therefore it entails greater technical and safety risks.
- The snagging risks to fisheries have been assessed as being very low for the leave in situ options (Anatec 2017; even though it is noted that these risks would be removed by the complete removal of the facilities which could represent a long-term snagging hazard to fisheries).
- The environmental risks were highest for full removal as this option would generate an area of seabed disturbance greater than that occupied by the pipeline, and at least as great as that which would have been associated with installation. There would also be greater volumes of CO<sub>2</sub> emissions from longer vessel times in the field for the full removal option.
- Though full removal provides substantial returns to shore of recyclable material which could offset future emissions from products using the recycling materials, this was largely counteracted by emissions from vessels involved in removal, and the uncertainty relating to the recyclability of the concrete, in addition to greater onshore risks of material handling.

Figures 3.11d and 3.11e (from Environmental Impact Assessment Report<sup>3</sup> (EIAR)) below, summarise the average option scoring of the CA. Note: Lower score = lowest risk (best scoring option); higher score = highest risk (worst scoring option).

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<sup>3</sup> Kinsale Area Decommissioning Project Environmental Impact Assessment Report, Hartley Anderson and Arup 2018.

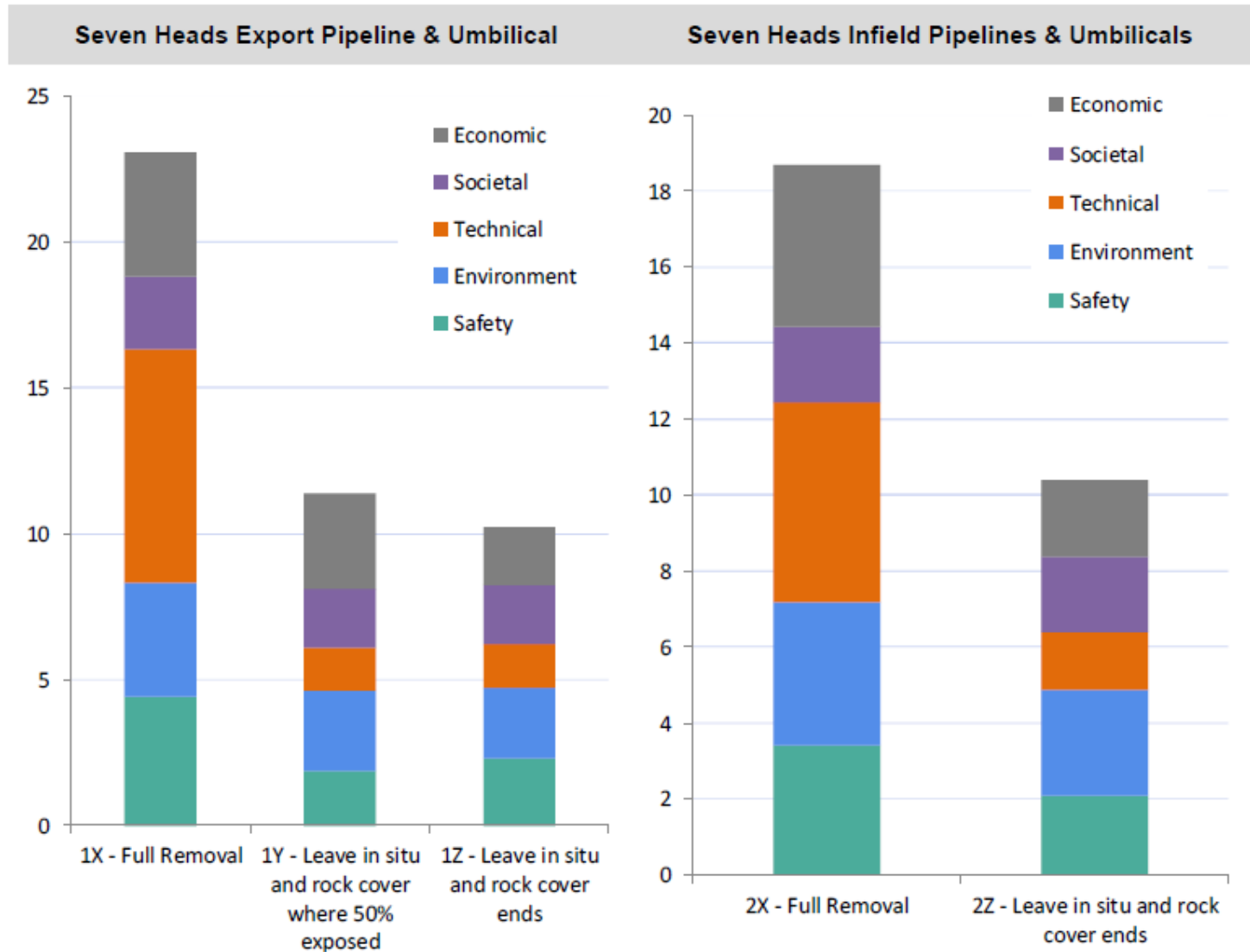


Figure 3.11d

Figure 3.11e

## **Comparative Assessment Conclusion**

Based on the results of the CA, the most favourable option for the offshore pipeline infrastructure is to leave the pipelines and umbilicals in situ and to remediate free spans and cover the ends, using rock cover, to reduce future risks to 3rd parties. This option scores favourably for all the categories assessed, and the majority of sub-categories, including being the preferred option in terms of the environmental criteria considered. While additional rock placement may reduce 3rd party risk even further, this did not change the overall results of the CA. Nevertheless, to ensure a conservative assessment of possible impacts, two in situ decommissioning options were assessed in the EIAR:

- rock cover remediation of pipe ends and free spans only (CA preferred option)
- rock cover the full length of pipelines, which are currently not buried or under protective material

The final option chosen for the decommissioning of the pipelines and umbilicals is to retain them in place and rock cover the pipe ends and free spans only. After considering all alternatives and taking into account environmental, safety, technical and related matters, it was determined that there was no suitable alternative.

The Comparative Assessment report, Kinsale Area Decommissioning Project Comparative Assessment of Pipelines and Umbilicals, is attached in Appendix 1.

## **Attachment E.2(I) Characteristics of the Dumping Site(s)**

### **E.2(I).1 Distance from Shore**

The Seven Heads pipelines and umbilicals are between approximately 46km and 52km south of the County Cork coastline.

### **E.2(I).2 Average, Minimum And Maximum Depth Of Water (Referenced To OD Malin);**

The average, minimum and maximum water depths re given in Table E.2(I).2 1 below.

Water Depth	mLAT	mOD Malin*
Minimum	88	-85
Average	-98 to -99	-95 to -96
Maximum	-100	-97

\*Conversion from Chart datum (LAT) to OD Malin Head for Ballycotton Harbour -1.474mOD Malin Head = 1.092m LAT (<http://www.marine.ie/Home/site-area/data-services/real-time-observations/tidal-observations> accessed 27-5-2021. Ballycotton Harbour is closest point for which Marine Institute data given.)

### **E.2(I).3 Sediment Characteristics**

The seafloor is generally flat in the area encompassing the Kinsale Area fields with gentle slopes across the region. Rig site and pipeline route surveys undertaken around the Seven Heads, South West Kinsale and Greensand developments all showed mosaics of high and low reflectivity (AquaFact 2003, 2004). The high reflectivity was interpreted as gravelly sands with megaripples of up to 0.3m height and 1.5m wavelength. The low reflectivity areas comprised muddy sand (station KG 12 in Figure 4.1 shows slightly muddy sand recorded from the 2002 survey). At the prevailing water depths of 90-100m, the megaripples are indicative of a high energy environment. Ribbons of mobile sands lie in a southwest to northeast orientation. Outcrops of hard substrate – the underlying Cretaceous chalk bedrock – are also exposed intermittently with a variable covering of muddy sands. A distinctive feature of the sediments in the Kinsale Area is the apparent frequent juxtaposition of clean sand with mud. This mixture of sediment types is reflected in the fauna present, so that a single sample may contain species characteristic of both muds and clean sands.

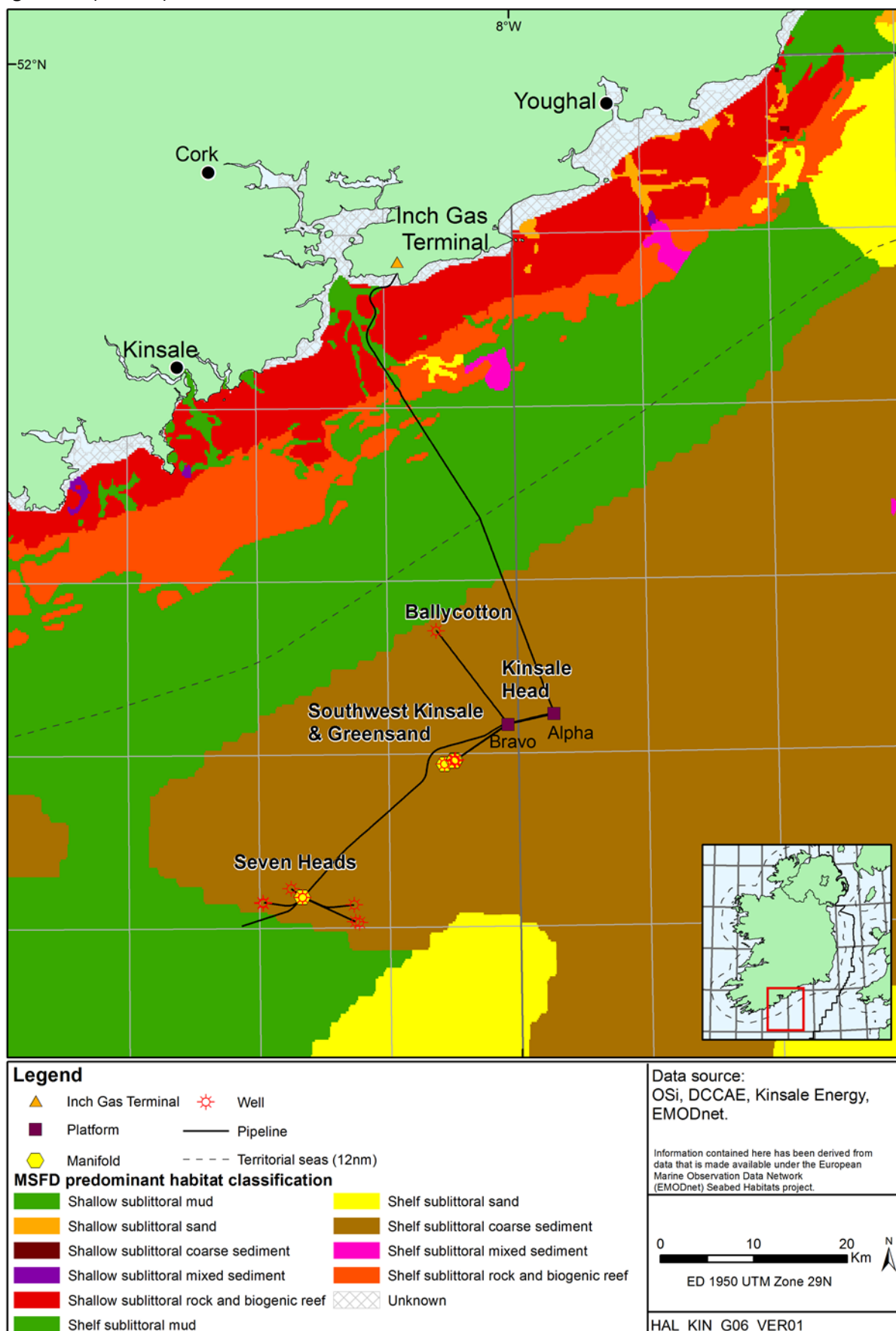
Sidescan sonar records from the Kinsale Area indicate the presence of distinctive Holocene sand, together with exposures of older Quaternary sand and gravel linear patches, all within spatial scales of a few hundred metres.

Refer to Section 4.1 of the EIAR in Appendix 2.

### **E.2(I).4 Nature of Seabed Habitats**

According to the EUNIS habitat classification, the underlying habitat is circalittoral coarse sediment (Figure 4.4). These are characteristically found in tidal channels of marine inlets, along exposed coasts and offshore and particle sizes range through coarse sands, gravel and shingle. Deep circalittoral sand is defined as fine sands or non-cohesive muddy sands which are likely to be more stable due to their depth. Existing seabed surveys of the area (Figure 4.5) generally support the EUNIS habitat descriptions and mapped distribution in the area. The dynamic nature of the sedimentary environment of the area presents a range of relatively impoverished heterogeneous benthic habitats. Figure 4.4 of the EIAR is included below. Refer also to Section 4.1 of the attached EIAR.

Figure 4.4 (of EIAR) Predicted Seabed Habitats





### **E.2(I).5 Current/Flow/Tidal Regime, Etc.**

The Celtic Sea is particularly susceptible to rough seas due to strong to gale force south westerly winds. The highest frequency of rough to high seas over the open ocean to the south is associated with winds between south-south-east and north-west (UKHO 1997).

Swell distributions are dominated by swells from a south-west and west direction throughout the year, with mean significant wave heights varying between 1-1.5m in summer to 3m in winter (data for 15 July 2016 and 15 January 2016 respectively from Marine Institute monthly model means). Estimates of 100-year extreme metocean conditions for the Kinsale Area indicate a significant wave height of up to 13.8m, a maximum wave height of 24.7m, and a current speed of 1.13m/s, all from a southwesterly direction (Fugro 2015).

Semi-diurnal tidal components dominate short-term current velocities at the Kinsale Area, with typical spring velocities of around 0.5m/s and a north-easterly flood and south-westerly ebb orientation (UKHO 1997).

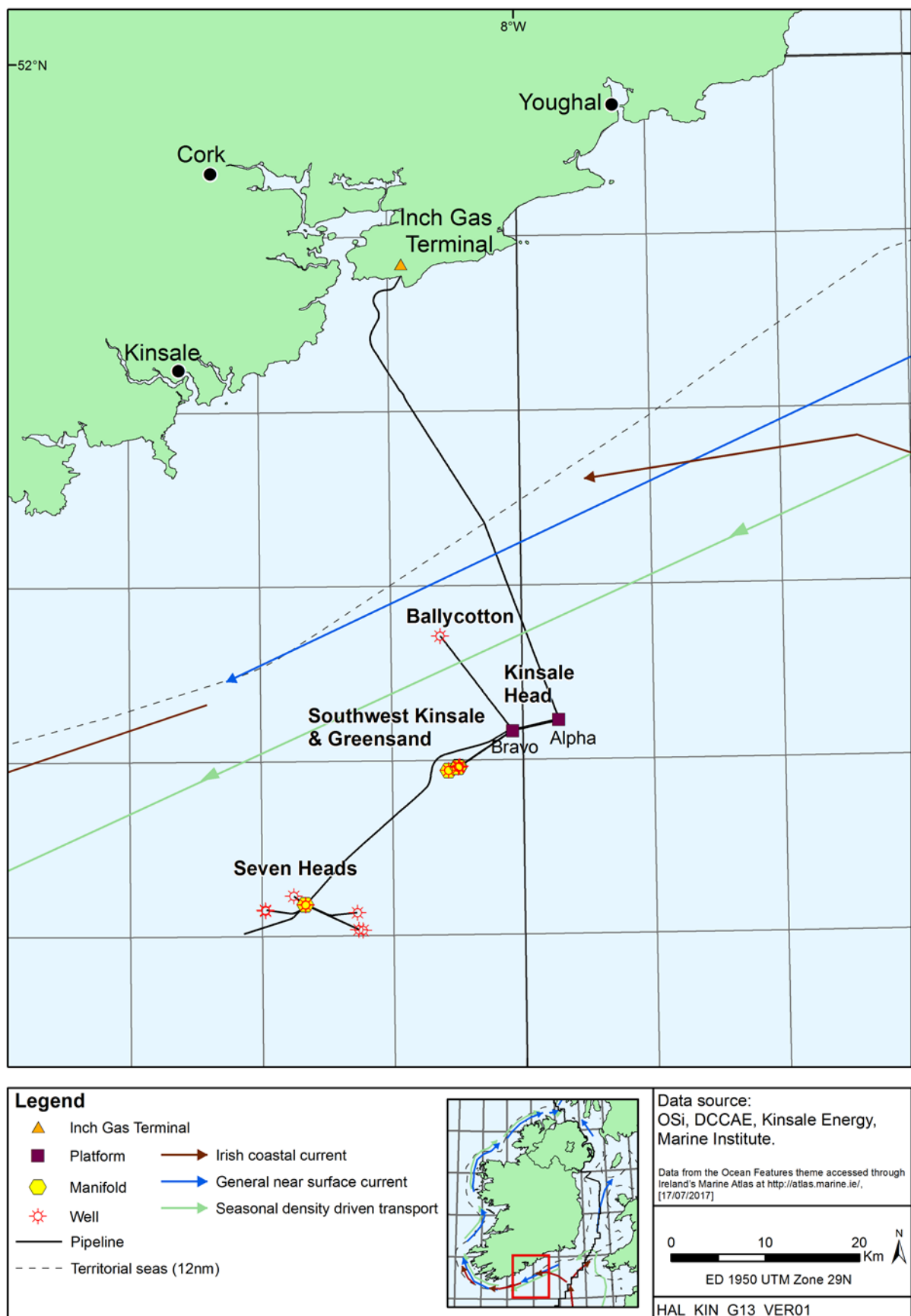
The general pattern of transport of water into the Celtic Sea was reviewed by Pingree & Le Cann (1989), who identified a weak, variable but persistent flow, with typical mean speeds of 0.03m/s, moving northwards along the Brittany coast and across the mouth of the English Channel. North of the Scilly Isles, part of this flow diverges to the west and is deflected southwards around the south coast of Ireland, and there is generally a strong clockwise flow around the Irish coast caused by easterly winds and the Irish Coastal Current (Fernand et al. 2006). See Figure 4.6 for a schematic of the currents in the Kinsale Area.

Surface water temperatures range from 8-10°C in winter to 15-16°C in summer, while bottom temperatures show less variation and remain at around 8-10°C throughout the year (Connor et al. 2006). Thermal stratification of the water column develops in spring, with a thermocline between warm surface waters and colder deeper waters. Stratification breaks down to an extent through autumn, although the area remains frontal throughout winter (Connor et al. 2006). Mean sea surface salinity at the Kinsale Area during the summer is 34.75‰ increasing in winter to 35.10‰, reflecting stratified and mixed conditions respectively (BODC 1998).

The Marine Framework Strategy Directive (MFS) initial assessment (Marine Institute 2013) provides an overview of water quality in the Irish marine environment. Monitoring results of water sampling (in addition to sediment and organism sampling) indicate that the concentrations of monitored non-synthetic chemicals (e.g. trace metals, hydrocarbons) and synthetic contaminants (e.g. PCBs, flame retardants, TBT) are within internationally acceptable ranges or standards and at levels unlikely to cause adverse effects on marine life.

The OSPAR Intermediate Assessment 2017 provides an assessment of the eutrophication status of NE Atlantic waters, drawing on data from 2006-2014 (OSPAR 2017). Results for Republic of Ireland waters are very similar to previous assessments, with the vast majority (> 99.9% by area) of assessed areas classified as non-problem areas for eutrophication. Problem (n = 20) and potential problem (n = 16) areas are restricted to small inshore and coastal areas; these include some estuaries and embayments on the south coast of Ireland. Offshore waters, such as the Kinsale Area, do not show elevated nutrient concentrations (OSPAR 2017). Refer also to Section 4.3 of the EIAR.

Figure 4.6 (of the EIAR) Currents in the Kinsale Area



**Attachment E.2 (II) Location of the dumping site(s)**

The coordinates for the pipelines and umbilicals dumping site(s) are given in Longitude and Latitude (WGS84 datum; in degrees and decimal minutes) in Table E.2 (II).1 below:

The co-ordinates are shown at intervals along the length of the pipelines and umbilicals.

**Table E.2 (II).1 Coordinates of Dumping Site(s)**

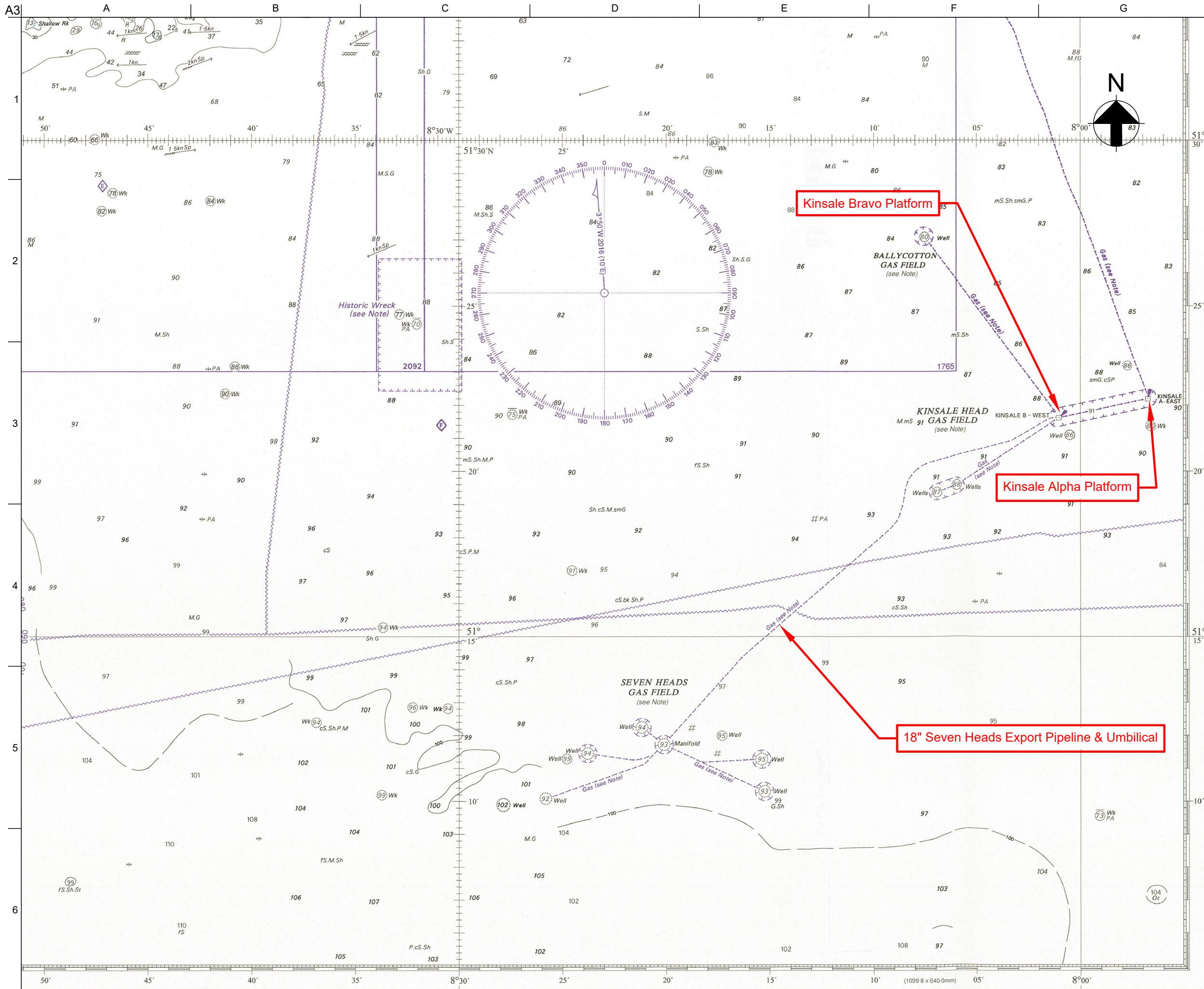
Pipeline/Umbilical Description	Latitude	Longitude
18" Seven Heads (SH) to Alpha platform pipeline and Umbilical	51° 11' 48.4" N	8° 20' 03.1" W
	51° 12' 4.694" N	8° 19' 42.345" W
	51° 12' 18.627" N	8° 19' 22.408" W
	51° 12' 29.981" N	8° 19' 6.049" W
	51° 12' 45.819" N	8° 18' 43.439" W
	51° 12' 56.524" N	8° 18' 28.007" W
	51° 13' 7.490" N	8° 18' 12.385" W
	51° 13' 16.908" N	8° 17' 58.934" W
	51° 13' 28.425" N	8° 17' 42.359" W
	51° 13' 35.264" N	8° 17' 32.652" W
	51° 13' 46.016" N	8° 17' 17.202" W
	51° 14' 2.243" N	8° 16' 54.017" W
	51° 14' 19.084" N	8° 16' 29.959" W
	51° 14' 36.971" N	8° 16' 1.139" W
	51° 14' 49.609" N	8° 15' 38.517" W
	51° 15' 3.283" N	8° 15' 13.458" W
	51° 15' 12.688" N	8° 14' 56.344" W
	51° 15' 21.714" N	8° 14' 39.783" W
	51° 15' 32.716" N	8° 14' 19.515" W
	51° 15' 43.916" N	8° 13' 59.000" W
	51° 15' 55.978" N	8° 13' 36.824" W
	51° 16' 5.179" N	8° 13' 19.874" W
	51° 16' 15.027" N	8° 13' 1.816" W
	51° 16' 29.635" N	8° 12' 34.843" W
	51° 16' 43.179" N	8° 12' 9.986" W
	51° 16' 57.942" N	8° 11' 42.740" W
	51° 17' 11.847" N	8° 11' 17.115" W
	51° 17' 28.095" N	8° 10' 47.126" W
	51° 17' 36.795" N	8° 10' 31.219" W
	51° 17' 41.946" N	8° 10' 21.688" W
	51° 17' 53.415" N	8° 10' 0.564" W
	51° 18' 2.310" N	8° 9' 44.124" W
	51° 18' 12.258" N	8° 9' 25.748" W
	51° 18' 22.776" N	8° 9' 6.454" W
	51° 18' 33.016" N	8° 8' 50.907" W
	51° 18' 46.575" N	8° 8' 38.330" W
	51° 19' 5.737" N	8° 8' 30.286" W
	51° 19' 22.637" N	8° 8' 25.768" W
	51° 19' 37.531" N	8° 8' 21.381" W
	51° 19' 54.156" N	8° 8' 10.673" W
	51° 20' 5.130" N	8° 7' 57.659" W

	51° 20' 17.570" N	8° 7' 32.982" W
	51° 20' 24.715" N	8° 7' 4.939" W
	51° 20' 30.345" N	8° 6' 31.353" W
	51° 20' 34.456" N	8° 6' 7.023" W
	51° 20' 38.525" N	8° 5' 42.732" W
	51° 20' 42.515" N	8° 5' 18.328" W
	51° 20' 45.439" N	8° 5' 0.345" W
	51° 20' 48.915" N	8° 4' 39.411" W
	51° 20' 52.501" N	8° 4' 17.880" W
	51° 20' 57.012" N	8° 3' 50.433" W
	51° 21' 1.656" N	8° 3' 22.736" W
	51° 21' 10.482" N	8° 2' 52.908" W
	51° 21' 19.831" N	8° 2' 27.437" W
	51° 21' 26.479" N	8° 2' 9.344" W
	51° 21' 33.104" N	8° 1' 51.344" W
	51° 21' 38.925" N	8° 1' 34.275" W
	51° 21' 43.967" N	8° 1' 13.584" W
	51° 21' 48.441" N	8° 0' 41.624" W
	51° 21' 52.070" N	8° 0' 15.899" W
	51° 21' 57.985" N	7° 59' 32.307" W
	51° 22' 2.157" N	7° 59' 1.801" W
	51° 22' 6.754" N	7° 58' 28.890" W
	51° 22' 9.911" N	7° 58' 5.910" W
	51° 22' 13.680" N	7° 57' 37.876" W
	51° 22' 16.652" N	7° 57' 16.052" W
	51° 22' 19.738" N	7° 56' 54.548" W
	51° 22' 15" N	7° 56' 42.0" W
8" SH flowline A and umbilical		
	51° 12' 18.1" N	8° 21' 05.4" W
	51° 12' 16.388" N	8° 20' 55.367" W
	51° 12' 11.532" N	8° 20' 45.165" W
	51° 12' 6.646" N	8° 20' 35.026" W
	51° 12' 1.622" N	8° 20' 24.888" W
	51° 11' 56.678" N	8° 20' 14.807" W
	51° 11' 51.711" N	8° 20' 4.708" W
	51° 11' 48.4" N	8° 20' 03.1" W
8" SH flowline B and umbilical		
	51° 11' 30.5" N	8° 23' 42.2" W
	51° 11' 30.399" N	8° 22' 53.218" W
	51° 11' 25.801" N	8° 22' 2.389" W
	51° 11' 22.926" N	8° 21' 11.330" W
	51° 11' 37.242" N	8° 20' 26.284" W
	51° 11' 48.4" N	8° 20' 03.1" W
8" SH flowline D and umbilical		
	51° 10' 21.6" N	8° 15' 10.4" W
	51° 10' 37.257" N	8° 15' 52.578" W

	51° 10' 51.035" N	8° 16' 38.948" W
	51° 11' 4.873" N	8° 17' 25.240" W
	51° 11' 18.765" N	8° 18' 11.450" W
	51° 11' 32.556" N	8° 18' 57.763" W
	51° 11' 46.397" N	8° 19' 43.784" W
	51° 11' 48.4" N	8° 20' 03.1" W
8" SH flowline E and umbilical		
	51° 11' 20.3" N	8° 15' 18.7" W
	51° 11' 22.047" N	8° 16' 10.846" W
	51° 11' 20.888" N	8° 16' 55.756" W
	51° 11' 19.464" N	8° 17' 47.484" W
	51° 11' 27.847" N	8° 18' 36.117" W
	51° 11' 41.230" N	8° 19' 22.966" W
	51° 11' 52.179" N	8° 20' 1.589" W
	51° 11' 48.4" N	8° 20' 03.1" W
8" SH flowline F		
	51° 10' 06.6" N	8° 25' 43.7" W
	51° 10' 22.493" N	8° 24' 55.184" W
	51° 10' 33.134" N	8° 24' 6.768" W
	51° 10' 44.025" N	8° 23' 18.478" W
	51° 10' 54.726" N	8° 22' 30.149" W
	51° 11' 5.354" N	8° 21' 41.678" W
	51° 11' 18.077" N	8° 20' 54.983" W
	51° 11' 40.916" N	8° 20' 18.721" W
	51° 11' 48.4" N	8° 20' 03.1" W

Seven Heads Chart 1 to 3 show the location of the pipelines and umbilicals.





- Notes**
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Project Title  
**Seven Heads Dumping at Sea Permit Application**

Drawing Title  
**Seven Heads Chart 1  
Seven Heads Gas Field Overview**

Scale at A3  
1:250,000

Role  
Planning

Suitability  
Information

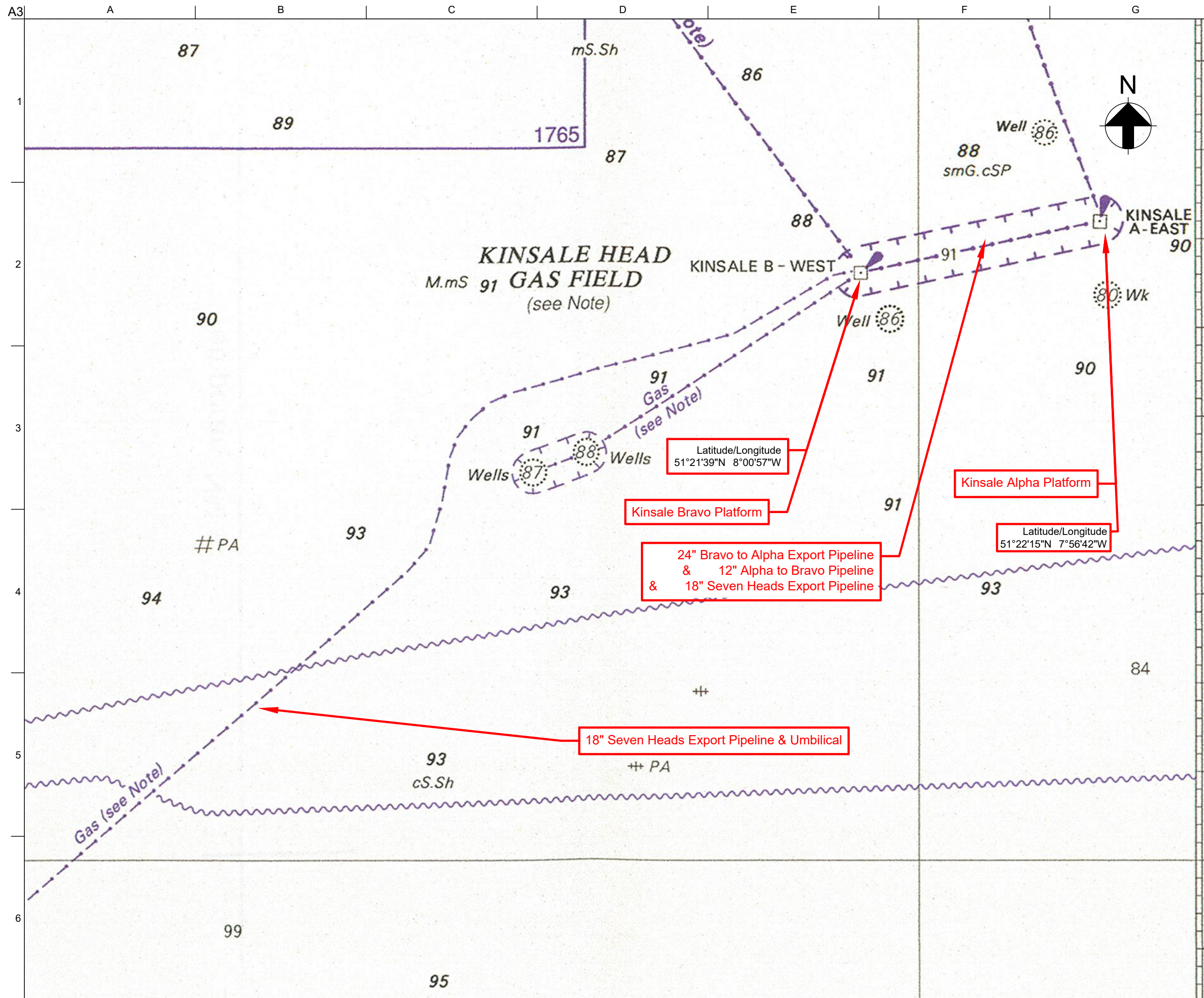
Arup Job No  
**253993-00**

Rev  
**0**

Name

**KEL-ARUP-DAS-DR-11**





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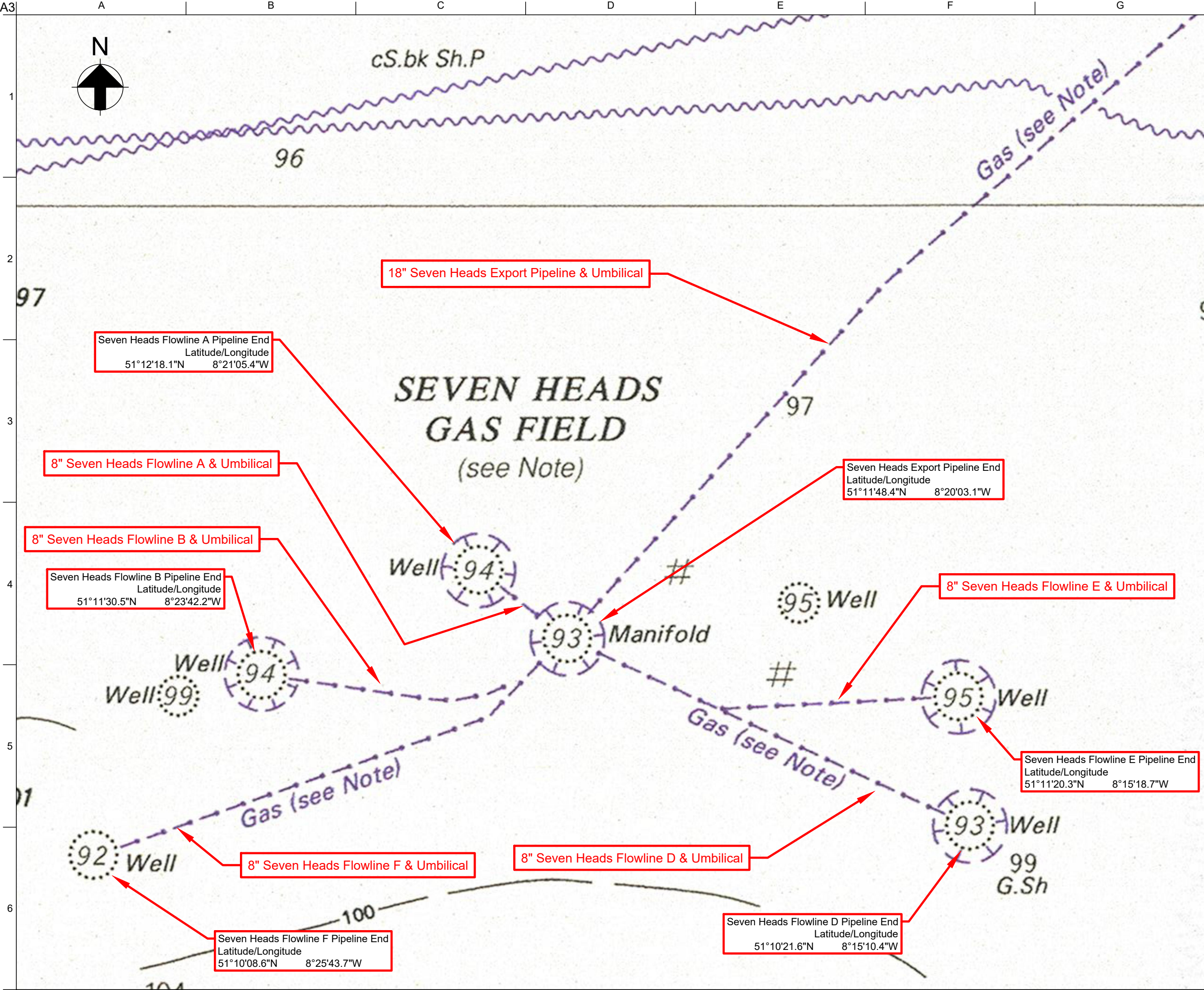
Project Title  
**Seven Heads Dumping at Sea Permit Application**

Drawing Title  
**Seven Heads Chart 2  
Kinsale Alpha & Bravo Platforms  
& Seven Heads Export Pipeline**

Scale at A3	1:100,000
Role	Planning
Suitability	Information
Arup Job No	253993-00
Rev	0

Name  
**KEL-ARUP-DAS-DR-12**





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**KINSALE ENERGY**

Project Title  
Seven Heads Dumping at Sea Permit Application

Drawing Title  
Seven Heads Chart 3  
Seven Heads Gas Field

Scale at A3	1:100,000
Role	Planning
Suitability	Information
Arup Job No	253993-00
Name	KEL-ARUP-DAS-DR-13
Rev	0



## **Attachment F.1 Assessment of Impact on the Environment**

### **F.1.1(a) Introduction**

The following sections provide an assessment of the predicted impact on the receiving environment of the proposed dumping at sea activities to which this application relates.

### **F.1.1(b) Initial dilution to be achieved by proposed method of release**

There will be no release activity and no initial dilution. The pipelines and umbilicals will be retained in situ.

### **F.1.1(c) Methods of packaging and containment, if any**

No packaging or containment methods are proposed. The pipelines and umbilicals will remain in situ and there will be no release activity.

### **F.1.1(d) Dispersal, horizontal transport and vertical mixing characteristics**

There will be no release activity and no dispersal, horizontal transport or vertical mixing of the pipelines and umbilicals in the water column. The residual contents of the umbilicals, MeOH, MEG and HW-540, will disperse in the water column over time. The materials are biodegradable.

### **F.1.1(e) Existence and impact of current and/or previous dumping in the area (including accumulative effects)**

There is no current dumping and there has been no previous dumping in the area. The nearest dredge material disposal site is in use by the Port of Cork. This site is located 5km to the east of the export pipeline. Refer to Figure 4.17 of the EIAR, which indicates the location of this site and three disused dumping sites.

### **F.1.1(f) Sea bottom characteristics, including topography, geochemical and geological characteristics and benthic micro-fauna and macro-fauna**

The sea bottom characteristics, including topography and geological characteristics are described in Section E.2(l).3 and E.2(l).4, above, and in Section 4.1 of the EIAR.

Sampling of the sediments in the area of the dump site, where the pipelines and umbilicals are located, was undertaken and the sampling locations and results were presented in the EIAR, in Section 4.1, Table 4.1.

### **F.1.1(g) Water characteristics (e.g., temperature, pH, salinity, oxygen indices of pollution-dissolved oxygen (DO), nitrate, nitrite, ammonia, phosphate and suspended matter)**

Table F.1.1(g) presents the results of water sampling undertaken by the Marine Institute, from 2013 to 2018, in the Western Celtic Sea, in which the Kinsale Area pipelines and umbilicals are located. While the sampling locations are to the north of the Kinsale Area, and at a shallower depth, the results are considered representative of the water quality in the vicinity of the Kinsale Area pipelines and umbilicals.

Table F 1.1 (g) Water Characteristics in Western Celtic Sea

Year	Sample	Station	WFD Water Body	Date	Time (hhmm)	Survey	Latitude	Longitude	Water Depth (m)	Depth (m)	ammonia (umol/l)	dissolved inorganic carbon (umol/kg)	dissolved oxygen by CTD (umol/l)	nitrate + nitrite (-N) (umol/l)	nitrite (NO2-N) (umol/l)	phosphate (PO4-P) (umol/l)	salinity (CTD measured) (PSU)	salinity (lab salinometer) (PSU)	silicate (SiO4-Si) (umol/l)	temperature (degC)	total alkalinity (umol/kg)
2011	274	IA32E1825	Western Celtic Sea (HAs 18;19;20)	03/02/11	1059	CV11020	51.7497	-8.2778	18	3				14.8	0.2	0.49		33.993	7.32		
2011	275	IA32E1828	Western Celtic Sea (HAs 18;19;20)	03/02/11	1042	CV11020	51.7502	-8.2492	26	3.98			308.27	13.1	0.17	0.48	34.178	34.197	6.83	7.68	
2011	275	IA32E1828	Western Celtic Sea (HAs 18;19;20)	03/02/11	1042	CV11020	51.7502	-8.2492	26	21.9			300.66	8.28	0.11	0.41	34.912	34.912	5.2	8.23	
2011	276	IA32E1852	Western Celtic Sea (HAs 18;19;20)	03/02/11	0721	CV11020	51.7497	-8.1968	27	3				11.1	0.15	0.5		34.464	6.41		
2011	277	IA32E1855	Western Celtic Sea (HAs 18;19;20)	03/02/11	0707	CV11020	51.7497	-8.1487	31	3				9.19	0.12	0.49		34.768	5.75		
2011	278	IA32E188		03/02/11	0654	CV11020	51.7498	-8.1015	42	3				8.86	0.12	0.49		34.844	5.21		
2011	279	IA32E188		03/02/11	0637	CV11020	51.7497	-8.0493	50	3				9.65	0.12	0.47		34.71	5.65		
2011	282	IA32E1598	Western Celtic Sea (HAs 18;19;20)	03/02/11	0951	CV11020	51.697	-8.35	31	3				7.73	0.11	0.49		34.927	5.09		
2011	283	IA32E1832	Western Celtic Sea (HAs 18;19;20)	03/02/11	1006	CV11020	51.6995	-8.3007	35	3				7.78	0.09	0.48		34.98	4.87		
2011	284	IA32E1838	Western Celtic Sea (HAs 18;19;20)	03/02/11	1018	CV11020	51.7003	-8.2522	40	3				7.97	0.08	0.49			5.06		
2011	285	IA32E186		03/02/11	0743	CV11020	51.702	-8.2008	52	3				8.16	0.11	0.5		34.863	5.3		
2011	324	IA32E1825	Outer Cork Harbour	03/02/11	1126	CV11020	51.7592	-8.2667	27	3				23.7	0.29	0.54		32.717	9.25		
2011	463	IA32E1816	Outer Cork Harbour	03/02/11	1111	CV11020	51.7788	-8.2668	17	3				19.1	0.25	0.54		33.513	8.09		
2013	274	IA32E1825	Outer Cork Harbour	04/02/13	0937	CV13001	51.7518	-8.2833	16.48	3				23.4	0.23	0.74		32.809	9.59		
2013	275	IA32E1828	Western Celtic Sea (HAs 18;19;20)	04/02/13	0917	CV13001	51.7503	-8.2527	23.15	1.6		2134.47	262.26	12.4	0.14	0.48	34.056	34.081	5.38		2292.97
2013	275	IA32E1828	Western Celtic Sea (HAs 18;19;20)	04/02/13	0917	CV13001	51.7503	-8.2527	23.15	23.59		2152.11	258.49	9.77	0.11	0.68	35.02		5.84		2326.39
2013	276	IA32E1852	Western Celtic Sea (HAs 18;19;20)	04/02/13	0859	CV13001	51.7503	-8.1995	24.37	3				10.5	0.12	0.69		34.842	6.16		
2013	277	IA32E1855	Western Celtic Sea (HAs 18;19;20)	04/02/13	0842	CV13001	51.7502	-8.1527	24.22	3				10.5	0.11	0.68		34.926	6.13		
2013	278	IA32E188		04/02/13	0825	CV13001	51.7498	-8.1062	36.91	3				9.79	0.1	0.68		35.029	5.85		
2013	279	IA32E188		04/02/13	0807	CV13001	51.7508	-8.0535	49.33	3				9.93	0.1	0.68		35.002	6.02		
2013	280	IA32E188		04/02/13	0747	CV13001	51.7502	-8.0015		3				10.2	0.08	0.67		35.012	5.89		
2013	282	IA32E1598	Western Celtic Sea (HAs 18;19;20)	06/02/13	1224	CV13001	51.6998	-8.3492	27.31	3				10	0.1	0.66		35.109	5.59		
2013	283	IA32E1832	Western Celtic Sea (HAs 18;19;20)	06/02/13	1208	CV13001	51.7003	-8.2987	34.46	3				9.83	0.07	0.7		35.093	5.58		
2013	284	IA32E1838		06/02/13	1056	CV13001	51.6977	-8.2457	39.12	3				10.1	0.12	0.7		34.993	5.86		
2013	324	IA32E1815	Outer Cork Harbour	04/02/13	1231	CV13001	51.8107	-8.2687	26.97	3				33.9	0.3	0.81		30.91	12.6		
2013	463	IA32E1816	Outer Cork Harbour	04/02/13	1019	CV13001	51.7797	-8.2667	16.38	3				19.2	0.2	0.73		33.458	8.29		
2015	274	IA32E1825	Western Celtic Sea (HAs 18;19;20)	25/01/15	0542	CV15001	51.7513	-8.2777		3	0.77			18.6	0.21	0.79		34.089	7.12		
2015	275	IA32E1828	Western Celtic Sea (HAs 18;19;20)	25/01/15	0555	CV15001	51.751	-8.2483		1.82	1.83	2123.5	262.571	20.7	0.22	0.83	34.163	34.198	7.03	8.992	2288.5
2015	275	IA32E1828	Western Celtic Sea (HAs 18;19;20)	25/01/15	0555	CV15001	51.751	-8.2483		20.21	1.28	2150	256.854	15.4	0.16	0.79	35.025	35.037	5.54	9.3421	2323.7
2015	277	IA32E1855	Western Celtic Sea (HAs 18;19;20)	24/01/15	1852	CV15001	51.749	-8.1498		3	0.97			13.5	0.13	0.75		34.958	5.61		
2015	278	IA32E188		24/01/15	1839	CV15001	51.7493	-8.1013		3	1.63			16.8	0.15	0.77		34.988	5.58		
2015	279	IA32E188		24/01/15	1826	CV15001	51.7498	-8.0495		3	1.41			17.5	0.15	0.76		35.018	5.53		
2015	280	IA32E188		24/01/15	1814	CV15001	51.7498	-8.001		3	1.2			14.9	0.12	0.8		35.041	5.61		
2015	282	IA32E1598	Western Celtic Sea (HAs 18;19;20)	25/01/15	0457	CV15001	51.701	-8.3502		3	1.06			14.4	0.19	0.77		34.754	6.11		
2015	283	IA32E1832	Western Celtic Sea (HAs 18;19;20)	25/01/15	0509	CV15001	51.7002	-8.2983		3	0.67			14.5	0.18	0.78		34.764	6.15		
2015	284	IA32E1838	Western Celtic Sea (HAs 18;19;20)	25/01/15	0521	CV15001	51.7027	-8.2493		3	0.38			15.9	0.17	0.79		34.522	6.37		
2015	285	IA32E186		24/01/15	1916	CV15001	51.6978	-8.198		3	1.55			15.8	0.19	0.8		34.695	6.13		
2015	324	IA32E1815	Outer Cork Harbour	25/01/15	0653	CV15001	51.8117	-8.2665		3.58	0.93	2131.8	256.993	17.8	0.18	0.81	34.319	34.339	6.73	9.0484	2297.2
2015	324	IA32E1815	Outer Cork Harbour	25/01/15	0653	CV15001	51.8117	-8.2665		23.95	1.6	2138.2	258.921	17.1	0.2	0.79	34.577	34.623	6.26	9.1223	2308.1
2015	463	IA32E1816	Outer Cork Harbour	25/01/15	0637	CV15001	51.783	-8.2658		3	1.65			23.8	0.23	0.84		33.355	8.28		
2018	274	IA32E1825	Western Celtic Sea (HAs 18;19;20)	04/02/18	0108	CV18001	51.7511	-8.2791	13.94	3				18.821	0.1565	0.783		33.933	7.2835		
2018	275	IA32E1828	Western Celtic Sea (HAs 18;19;20)	04/02/18	0054	CV18001	51.7498	-8.2502	19	3.696		2146.15		19.257	0.1685	0.796		34.251	7.28		2305.926
2018	275	IA32E1828	Western Celtic Sea (HAs 18;19;20)	04/02/18	0054	CV18001	51.7498	-8.2502	19	19.066		2145.19		14.0525	0.122	0.715		34.605	5.816		2314.29
2018	276	IA32E1852	Western Celtic Sea (HAs 18;19;20)	03/02/18	1950	CV18001	51.7491	-8.201	26.13	3				12.1175	0.098	0.699		34.887	5.753		
2018	277	IA32E1855	Western Celtic Sea (HAs 18;19;20)	03/02/18	1937	CV18001	51.7498	-8.1506	28.17	3				11.3925	0.085	0.5295		35.703	5.4865		
2018	278	IA32E189		03/02/18	1925	CV18001	51.7504	-8.1011	39.05	3				10.6715	0.0685	0.6235		35.008	5.52		
2018	279	IA32E189		03/02/18	1912	CV18001	51.7506	-8.0498	52.6	3				10.517	0.048	0.6445		35.023	5.526		
2018	280	IA32E189		03/02/18	1901	CV18001	51.7496	-8.0081	60.09	3				10.8285	0.04	0.505		35.042	5.302		
2018	282	IA32E1598	Western Celtic Sea (HAs 18;19;20)	04/02/18	0157	CV18001	51.6998	-8.35	24.87	3				14.5785	0.1335	0.6915		34.511	6.1485		
2018	283	IA32E1832	Western Celtic Sea (HAs 18;19;20)	04/02/18	0144	CV18001	51.7003	-8.3006	31.5	3				14.6495	0.1305	0.7715		34.613	6.1485		
2018	284	IA32E1838	Western Celtic Sea (HAs 18;19;20)	04/02/18	0130	CV18001	51.7	-8.2498	35.92	3				13.041	0.103	0.7165			5.753		

Source: Marine Institute under licence agreement for use of digital data

### **F.1.1(h) Interference with Legitimate Use of the Sea**

#### **Shipping, Fishing, Recreation, Mineral Extraction and Desalination**

The pipelines and umbilicals will remain in situ and there will be no dumping activity. There will be no initial or long-term interference with shipping, fishing or recreation users of the area. Protection materials will be placed on the pipelines and umbilicals, as part of the decommissioning activity, to ensure there will be no risk to fishing activity. There is no mineral extraction from the area and no known mineral deposits. There is no known desalination in the area, other than possible use of desalination plant on shipping transiting the area. It is extremely unlikely that retaining the pipelines and umbilicals in place would interfere in any way with such desalination.

#### **Fish Spawning and Nursery Habitats**

The Kinsale Area, in which the pipelines and umbilicals are located, is within spawning areas for herring, sprat, cod, whiting, plaice, lemon sole and Nephrops (Coull et al. 1998), as well as haddock, megrim, mackerel and horse mackerel (Marine Institute data). Mackerel, cod, whiting, lemon sole, blue whiting (*Micromesistius poutassou*), ling (*Molva molva*), European hake and Nephrops all use the area as a nursery area at low intensity, while the area is a high intensity nursery area for monkfish (Ellis et al. 2012). The Marine Institute has also identified nursery grounds for herring, haddock, megrim and horse mackerel, in addition to whiting and mackerel. The Kinsale Area is not located within any known elasmobranch spawning grounds but was identified as being within low intensity nursery grounds for spurdog and common skate (Ellis et al. 2012). The potential impact of the retention of the pipelines and umbilicals on fish spawning and nursery habitat is addressed in the Section 7.3 of the EIAR.

#### **Areas of Special Scientific or Natural Importance**

There are no areas of special scientific importance or natural importance, or Natura 2000 sites in the Kinsale Area, in which the pipelines and umbilicals are located. The closest Natura 2000 sites are described in Section 4.4.8 of the EIAR and in the NIS. The potential effects of the retention of the pipelines and umbilicals materials on Natura 2000 sites is addressed in Section 7.3 of the EIAR and in the Appropriate Assessment Screening Report. There will be no direct effect on such areas.

#### **Areas of Archaeological Heritage Importance**

There are no areas designated as being of archaeological heritage importance in the vicinity of the Kinsale Area, in which the pipelines and umbilicals are located. A number of shipwrecks are known in the area, particularly in coastal waters and at the mouth of Cork Harbour, including two sunken U-boats (UC42 and U-58) which were highlighted by the INtegrated Mapping FOR the Sustainable Development of Ireland's MARine Resource (INFOMAR) (<http://infomar.ie/>) survey (Figure 4.18 of the EIAR). The closest of these wrecks is UC42 which is designated by UHO and located within 200m of the export pipeline to the Inch Terminal and 5.5km south east of Roches Point. The shipwreck of the Elizabeth Jane, sunk in 1916, is also noted to be located approximately 560m from the export pipeline (Ramboll, 2017b). Additionally, a number of other charted shipwrecks are located throughout the wider Celtic Sea area, as are a number of other wrecks, the positions of which are approximate. No prehistoric or archaeological remains are known in the immediate vicinity of the Kinsale Area infrastructure.

The cultural heritage features in the vicinity of the Kinsale Area, in which the pipelines and umbilicals are located, are described in Section 4.6 of the EIAR.

Appendix C of the EIAR Addendum, which is attached in Appendix 2, presented a Cultural Heritage Assessment of the Kinsale Area Decommissioning Project. The Cultural Heritage Assessment was prepared Dr Niall Brady of the Archaeological Diving Company Ltd (ADCO). ADCO has more than 20 years' experience in maritime archaeology.

As the dumping application will involve no physical activities and no interference with the seabed, no interference with archaeological heritage is expected. The ADCO report recommended that *“Given that the decommissioning works are restricted to ground that has already been disturbed, there should be no requirement for archaeological monitoring.”*

## **Biodiversity**

The baseline biodiversity of the Kinsale Area, in which the pipelines and umbilicals are located, is described in Section 4.4 of the EIAR, which addresses plankton, benthos, cephalopods, fish and shellfish, marine reptiles, birds and marine mammals. The potential impact of the retention of the pipelines and umbilicals biodiversity is addressed in the Section 7.3 of the EIAR.

### **F.1.2 Underwater Archaeology Impact Assessment**

The cultural heritage features in the vicinity of the Kinsale Area, in which the pipelines and umbilicals are located, are described in Section 4.6 of the EIAR. As the dumping activity will involve no physical activities, no interference with archaeological heritage is expected.

### **F.1.3 Sediment Sampling of the Dumping Site**

Sampling of the sediments in the area of the dump site, where the pipelines and umbilicals are located, was undertaken and the sampling locations and results were presented in the EIAR, in Section 4.1, Table 4.1.

### **F.1.4 Existing Environment at the Dumping Site**

The existing water quality in the Kinsale Area, in which the pipelines and umbilicals are to be retained, is addressed in Section 4.3 of the EIAR and Section F.1.1(g) above.

### **Bathing Water Directive 76/160/EEC Bathing Water Quality**

The EPA mapping <https://gis.epa.ie/EPAMaps/>, accessed May 2021, gave the following information on the results of the monitoring of bathing water quality in the bathing areas closes to the Kinsale Area.

Table F.1.4.1 shows the bathing water quality in the bathing areas closest to the Kinsale Area.

**Table F.1.4.1 Bathing Water Quality in the Bathing Areas.**

Beach	Code	Location relative to Kinsale Area dump site	Bathing Water Quality 2020
Garryvoe	IESWBWC040_0000_0100	Ca 16km northeast of Inch	Sufficient Water Quality
Fountainstown	IESWBWC050_0000_0100	At mouth of Cork Harbour, ca 9km west of Inch	Excellent Water Quality
Garrylucas White Strand	IESWBWC090_0000_0300	Ca 32km southwest of Inch	Excellent Water Quality
Garretstown	IESWBWC090_0000_0200	Ca 33km southwest of Inch	Excellent Water Quality
Coolmaine	IESWBWC090_0000_0100	Ca 38km southwest of Inch	Good Water Quality

Source: <https://gis.epa.ie/EPAMaps/>, accessed May 2021

## The Water Framework Directive 2000/60/EC Waterbodies

The EPA mapping <https://gis.epa.ie/EPAMaps/>, accessed May 2021, gave the following information on the Water Framework Directive 2000/60/EC (WFD) status of the coastal waterbodies in the vicinity of the Kinsale Area. Table F.1.4.2 shows the Water Framework Directive 2000/60/EC (WFD) status of the coastal waterbodies in the vicinity of the Kinsale Area.

**Table F.1.4.2 Water Framework Directive 2000/60/EC (WFD) Status of the Coastal Waterbodies**

WFD Waterbody	Code	Location relative to Kinsale Area dump site	WFD Waterbody Status (SW 2013 - 2018)
Western Celtic Sea (Hs18;19;20)	IE_SW_010_0000	Inshore from the Kinsale Area, waterbody extends from Ardmore to Barley Cove	unassigned
Youghal Bay	IE_SW_020_0000	Ca 24km northeast of Inch	Moderate
Cork Harbour (Lower Harbour from Monkstown to narrows at Rams Head)	IE_SW_060_0000	Ca 6km northwest of Inch	Moderate
Outer Cork Harbour (From Narrows at Rams Head to Power Head)	IE_SW_050_0000	Inch located in this waterbody	Good
Kinsale Harbour	IE_SW_080_0000	Ca 25km southwest of Inch	Good
Courtmacsherry Bay	IE_SW_090_0000	Ca 32km southwest of Inch	Good

Source: <https://gis.epa.ie/EPAMaps/>, accessed May 2021

Sampling of the sediments in the area of the dump site, the Kinsale area in which the pipelines and umbilicals are to be retained, was undertaken and the sampling locations and results are summarised in Section E.2(I).3 above and were presented in the EIAR, in Section 4.1, Table 4.1. There will be no release activity and no dispersal, horizontal transport or vertical mixing of the pipelines and umbilicals in the water column.

### F.1.5 Appropriate Assessment Screening and Appropriate Assessment

Appropriate Assessment screening was undertaken in 2018 for the consent applications for the Kinsale Area Decommissioning Project, which included the retention in situ of the pipelines and umbilicals. The Appropriate Assessment screening and Article 12 screening report<sup>4</sup> was submitted to the Minister for Communications, Climate Action and the Environment (now the Minister for the Environment, Climate and Communications). The Appropriate Assessment screening has been reviewed and an addendum prepared. The Report for the purposes of Appropriate Assessment Screening and Article 12 Screening (2018) and the 2019 and 2021 addenda to this report are provided in Appendix 3 to this application. The conclusion of the Appropriate Assessment screening report is that the activities associated with the proposed Kinsale Area Decommissioning Project are not considered to result in likely significant effects (alone or in-combination) on the Conservation Objectives of any relevant Natura 2000 site within the Zones of Influence of the project.

### F.1.6 Marine Mammal Risk Assessment

An assessment of the effects of the Kinsale Area Decommissioning Project, which include the retention in situ of the pipelines and umbilicals, on the marine mammal species listed in Annex IV of the Habitats Directive was undertaken and included in the Appropriate Assessment screening report, referred to in Section F.1.5 above.

<sup>4</sup> Kinsale Area Decommissioning Project Report for the purposes of Appropriate Assessment Screening and Article 12 Screening, Hartley Anderson and Arup, 2018

The assessment has been updated. The Report for the purposes of Appropriate Assessment Screening and Article 12 Screening (2018) and the 2019 and 2021 addenda to this report are provided in Appendix 3 to this application. The Article 12 screening assessment concluded that, while Annex IV species may be present in the vicinity of the proposed Kinsale Area Decommissioning Project, the localised scale and duration of the works will not result in the deliberate disturbance or destruction of any of the species listed in Annex IV of the Habitats Directive which may be present in the study area.

#### **F.1.7 Other Designations of Dumping site**

Refer to Section F.1.4 above in relation to the Bathing Water Directive 76/160/EEC and the Water Framework Directive 2000/60/EC. No other designations apply.

#### **F.1.8 Assessment of impact on receiving environment**

An assessment of the effects of the Kinsale Area Decommissioning Project, which includes the retention in situ of the pipelines and umbilicals, were assessed in the EIAR which was submitted to the Minister for Communications, Climate Action and the Environment (now the Minister for the Environment, Climate and Communications), and which is attached. Refer to Chapter 7 of the EIAR.