



**KINSALE AREA DECOMMISSIONING PROJECT**

**KINSALE HEAD PETROLEUM LEASE – OPL 1  
SEVEN HEADS PETROLEUM LEASE**

***APPLICATION TO CONDUCT AN OFFSHORE SURVEY***

***Kinsale Area Subsea Wells***

***Rig Site Geophysical Survey***

## Section 1 – Basic Survey

a.	Name of Operator	PSE Kinsale Energy Limited
b.	Authorisation (Lease/Licence, PPL Number, Other)	Kinsale Head Petroleum Lease (OPL 1)  Seven Heads Petroleum Lease
c.	Type of Survey and details of work to be undertaken	<p>The proposed Kinsale Area survey will acquire geophysical data in support of rig mooring operations at Seven Heads, SW Kinsale/Greensands and Ballycotton.</p> <p>Geophysical site survey data will be acquired using:</p> <ul style="list-style-type: none"> <li>• Singlebeam echo sounder (SBES),</li> <li>• multibeam echo sounder (MBES),</li> <li>• Sidescan sonar (SSS),</li> <li>• Magnetometer</li> <li>• Pinger/Chirp sub-bottom profiler (SBP).</li> <li>• USBL</li> </ul> <p>The geophysical data will be used to confirm water depths and identify potential seabed obstructions, existing infrastructure (e.g. cables, pipelines or wells) and cultural heritage features (e.g. ship wrecks). The data will also be used to map shallow sediment layers.</p> <p>The SBES, MBES and SBP will be hull-mounted. The SSS and magnetometer will be towed behind the vessel. USBL positioning will be used to confirm the position of the towed equipment.</p>
d.	Planned date of start of survey and estimated duration	<p>Operations are proposed to take place at some point between 1st April 2020 and 31st October 2020.</p> <p>Estimated duration (excluding possible weather standby):</p> <p>Seven Heads Area – 4.5 days SW Kinsale / Greensands Area – 1.5 days Ballycotton Area – 1.5 days</p>
e.	Location of Survey (latitude and longitude) together with a map on an appropriate scale showing detailed line layout, sampling locations etc as appropriate	<p>Refer to Appendix A for Map of Survey Line Plan.</p> <p>The survey lines per area are defined by the Start of Line and End of Line coordinates presented in Appendix B.</p> <p>The line plans provided are provisional and subject to change.</p> <p><u>No seabed sampling will be undertaken</u></p>
f.	Positioning systems to be used for the survey	All records obtained will use the ED50 co-ordinate system for reporting.

		<p>Positioning systems will include:</p> <ul style="list-style-type: none"> <li>• Differential Global Positioning System (DGPS) – DGPS Saab R5 or similar</li> <li>• Dynamic Positioning System – Kongsberg cJoy or similar</li> <li>• Ultra-short Baseline (USBL) – Kongsberg HiPAP 502 or similar</li> </ul>
<b>g.</b>	<b>Name and Address of contractor performing the survey</b>	TBC
<b>h.</b>	<b>Data and records expected to be obtained from survey</b>	<ul style="list-style-type: none"> <li>• Navigation– ED50 / WGS84.</li> <li>• Bathymetry: <ul style="list-style-type: none"> <li>• Processed reduced XYZ Grid</li> <li>• Geotiff</li> </ul> </li> <li>• Sidescan Sonar: <ul style="list-style-type: none"> <li>• eXtended Triton Format (XTF) files</li> <li>• Geotiff</li> </ul> </li> <li>• Magnetometer: <ul style="list-style-type: none"> <li>• txt</li> </ul> </li> <li>• Sub-bottom Profiler: <ul style="list-style-type: none"> <li>• SEGY Files</li> </ul> </li> <li>• Survey Outputs – AutoCAD DWG Charts, sub-bottom profile mapping, Geodatabase/ Shapefiles: <ul style="list-style-type: none"> <li>• Seabed Features</li> <li>• Sediments / Isopachs</li> </ul> </li> </ul>
<b>i.</b>	<b>i. Type of energy sources to be used;</b>	<p><u>USBL (Acoustic Positioning):</u>  Hull-mounted with beacon on towed fish (e.g. HiPAP 502 or similar)      20-35kHz or similar</p> <p><u>Single Beam Echo Sounder:</u>  Hull-mounted      35-200kHz or similar  (e.g. EM400 or similar)</p> <p><u>Multibeam Echo Sounder:</u>  Hull-mounted      70-100kHz or similar  (e.g. EM710 or similar)</p> <p><u>Sidescan Sonar:</u>  Towed Fish      Dual Frequency  (e.g. Edgetech 4200 or similar)      100kHz/500kHz</p> <p><u>Magnetometer:</u>  Towed Fish      Passive system  (e.g. Geometrics G882 or similar)</p> <p><u>Sub-bottom Profiler:</u>  a) Hull Mounted:  Hull-mounted Pinger/Chirp      1-16kHz or similar  (e.g. Edgetech 3300 or similar)  or</p>

		<p>b)Towed Fish:          Deep-tow Pinger/Chirp 1-16kHz or similar          (e.g. Edgetech 2400 or similar)          NB: only one of above to be used</p> <p>No explosives will be used.</p>
	<p>ii. Length and configuration of seismic cables, depth at cables are maintained, speed when towing and what radar reflector supporting tail buoys are to be used;</p>	<p><u>N/A no seismic cables will be deployed</u></p>
	<p>iii. A risk assessment of the proposed activity in relation to the sensitivities of marine mammals in the area to the proposed operations and outlining specific impact mitigation and monitoring practices that will be applied during the survey in relation to marine mammals.</p>	<p>For risk assessments refer to:          Kinsale Area Subsea Wells Rig Site Geophysical Survey - Environmental Impact Assessment Screening/Environmental Risk Report: March 2020          Kinsale Area Subsea Wells Rig Site Geophysical Survey Appropriate Assessment Screening Report: March 2020</p>
<b>j.</b>	<p>Not Applicable</p>	
<b>k.</b>	<p>Identification of vessel(s) to be used in the survey</p>	<p>Marine vessel will be confirmed later - refer to Appendix C.</p>
<b>l.</b>	<p>Contact details for those who will supervise survey operations:</p> <p>(1) In the Operator's office</p> <p>(2) In the Contractor's office</p> <p>(3) On the survey vessel</p>	<p>M.V. Murray, PSE Kinsale Energy Limited, Blackrock Cork T12 PW92          Telephone No.: +353 (0) 21 4356 242          Fax No.: + 353 (0) 21 4356209          Email Address: MVMurray@kinsale-energy.ie</p> <p>TBC</p> <p>TBC</p>

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## ***Section 2 – Detailed Information on survey to be undertaken***

### **Project Background**

PSE Kinsale Energy Limited (Kinsale Energy) is preparing for the decommissioning of the Kinsale Area gas fields and facilities (incorporating the Kinsale Head gas fields and facilities and the Seven Heads gas field and facilities), which are coming to the end of their productive life.

As noted in the approved Decommissioning Plans for the Kinsale Head and Seven Heads Gas Fields, a semi-submersible drilling rig, or Mobile Offshore Drilling Unit (MODU), will be required to decommission (abandon) the subsea wells in the Ballycotton, Southwest Kinsale and Seven Heads areas.

A survey is required around each of the well sites and anchor pattern of the semi-submersible mobile offshore drilling unit (MODU) to ensure there are no obstructions and to inform the mooring assessment for anchoring conditions.

### **Site Survey Specific Objectives**

- Establish and confirm water depths and seabed conditions.
- Identify any seabed obstructions and confirm the location of any existing infrastructure such as pipelines and wellheads.
- Investigate immediate sub-seabed geological conditions for the assessment of anchoring conditions.

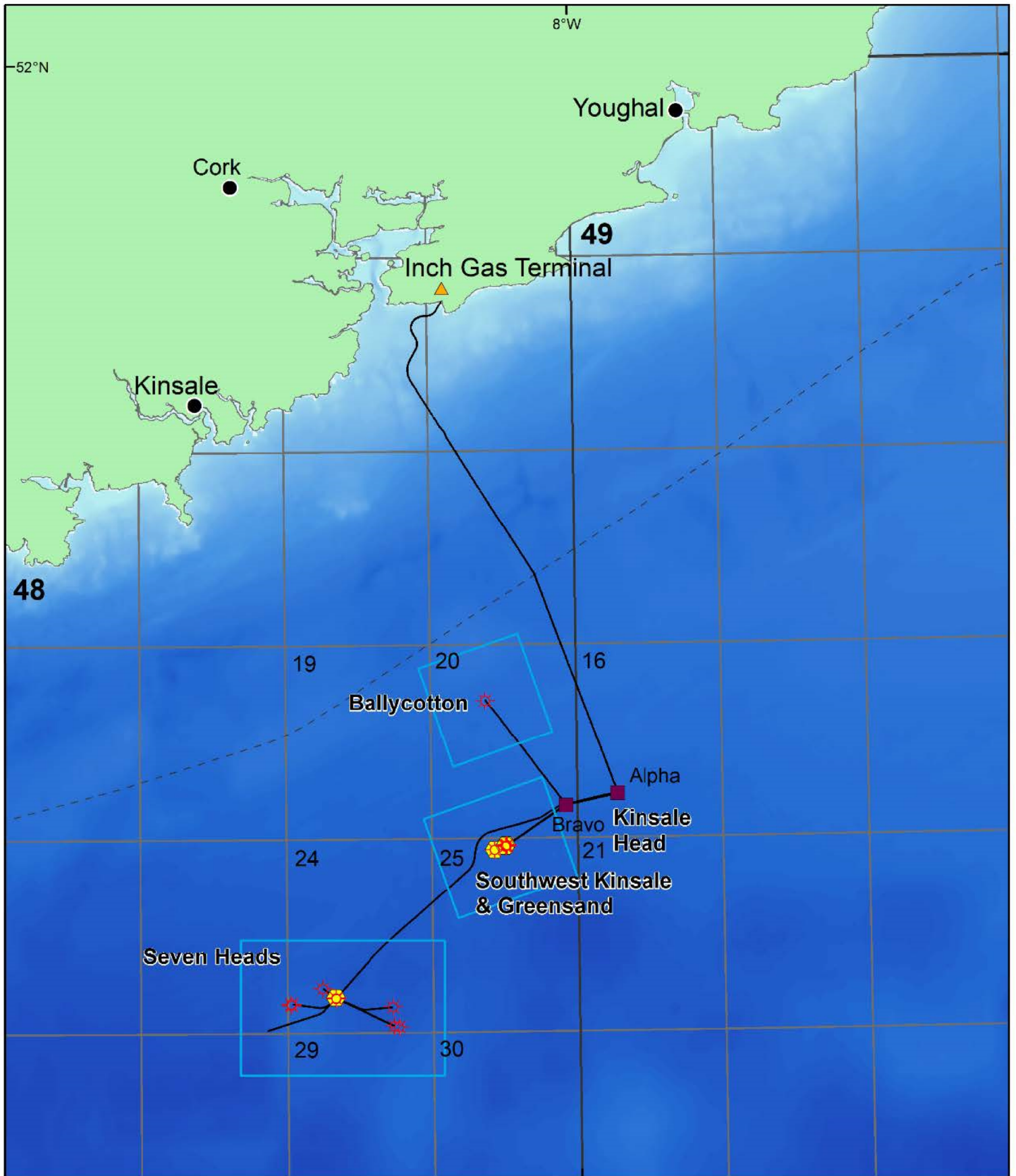
### **Survey Vessel – Details**

<b>Name</b>	TBC
<b>Radio Call Signal</b>	TBC
<b>Flag, Port of Registry</b>	TBC
<b>Classification</b>	TBC
<b>Built</b>	TBC

<b>Maritime Mobile Service Identity (MMSI No.)</b>	TBC	
<b>IMO Ship Identification No.</b>	TBC	
<b>Length (LOA)</b>	TBC	
<b>Beam</b>	TBC	
<b>Draught</b>	TBC	
<b>Tonnage</b>	TBC	
<b>Owner</b>	<b>Owner: TBC</b>	<b>Operator: TBC</b>
<b>Address</b>	<b>Owner: TBC</b>	<b>Operator: TBC</b>
<b>Contact details (mobile number &amp; e-mail address)</b>	<b>Owner: TBC</b>	<b>Operator: TBC</b>

## Appendix A - Survey Location Map

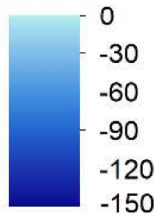
Drawing No.	Drawing Title
HAL_KIN1_G20_VER01	Overview of Subsea Fields
EOGG2018-F-002	Seven Heads Working Areas
EOGG2018-F-004	SW Kinsale Working Areas
EOGG2018-F-006	Ballycotton Working Areas



**Legend**

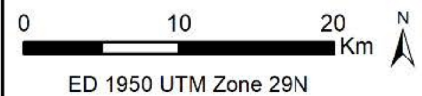
- ▲ Inch Gas Terminal
- Platform
- ⬡ Manifold
- ☀ Well
- Pipeline
- Working area
- - - Territorial seas (12nm)

**Bathymetry (m)**



Data source:  
OSi, DCCAE, Kinsale Energy,  
EMODnet Bathymetry.

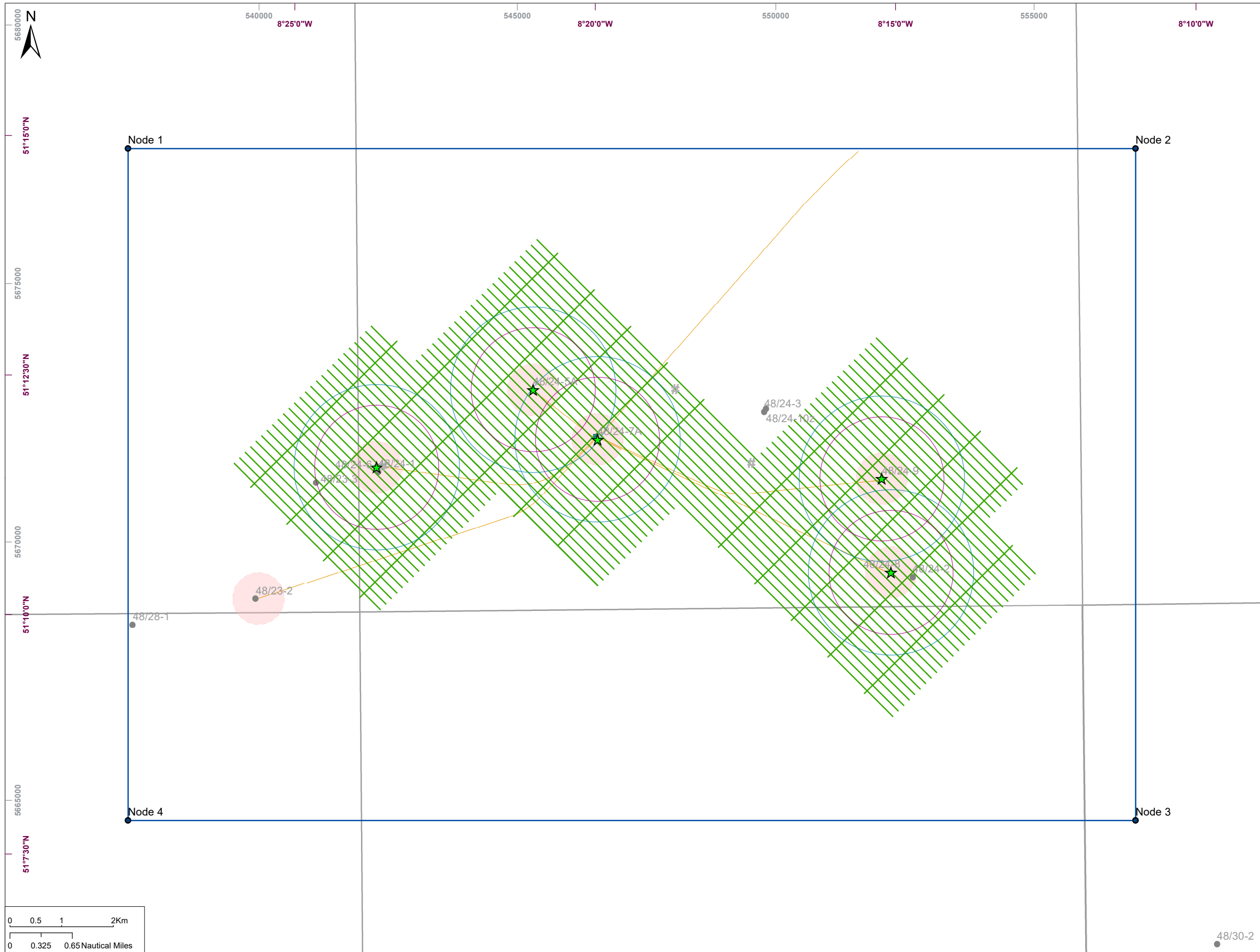
EMODnet Bathymetry Consortium (2016).  
EMODnet Digital Bathymetry (DTM).



ED 1950 UTM Zone 29N

HAL\_KIN1\_G20\_VER01



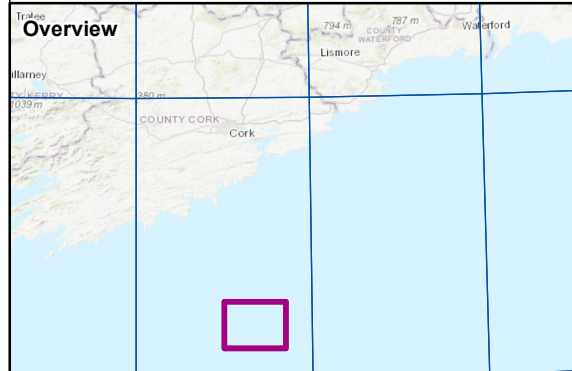


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5. The locations shown are based on the information identified /provided, and should be used for general guidance only.

- Legend**
- ★ Producing Well
  - Wells Ireland
  - Subsea Structure
  - ++ Wreck
  - # Foul / Obstruction
  - 500m Safety Zone
  - 1200m Anchor Radius
  - 1600m Anchor Radius
  - Planned Survey Line
  - Working Area

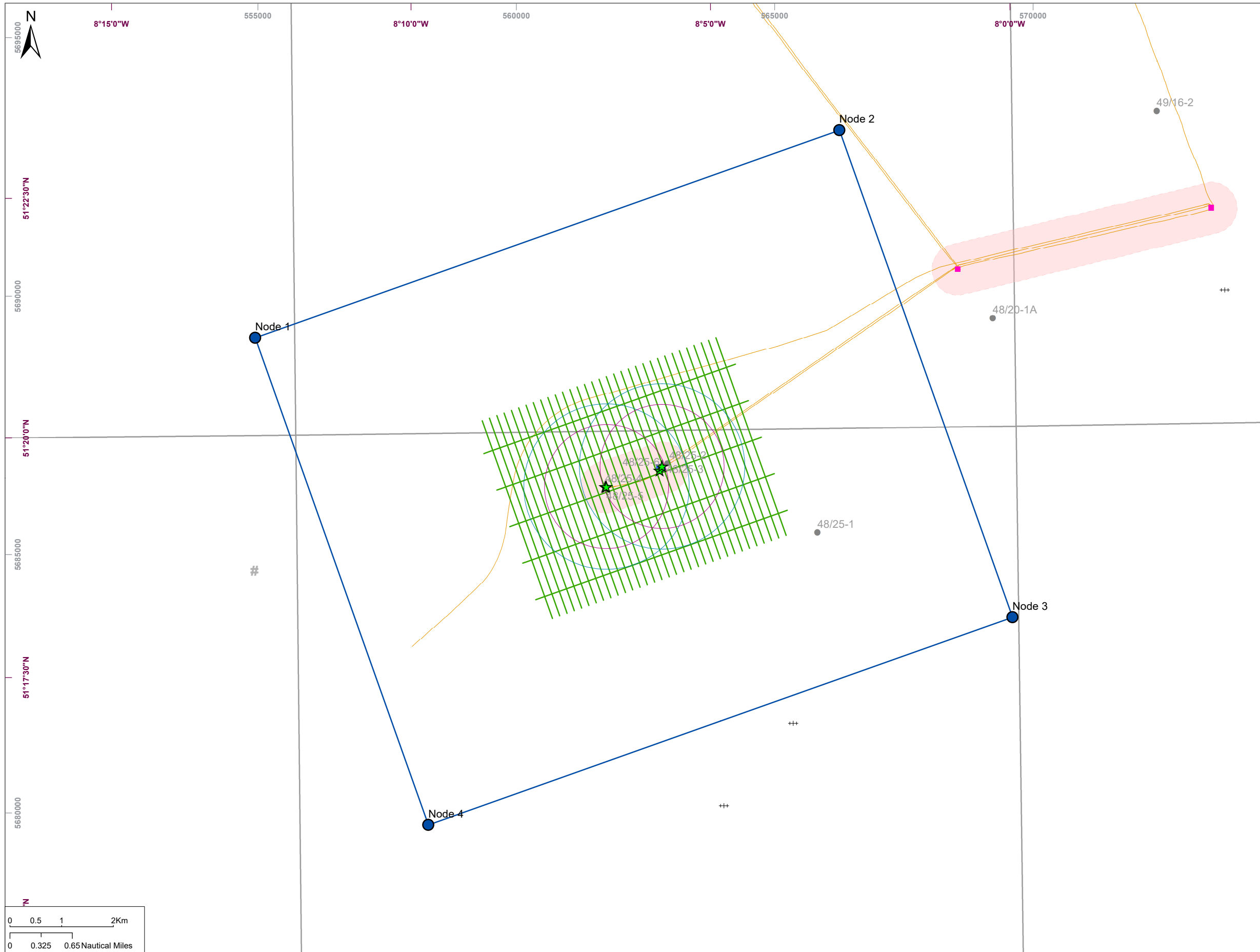


Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance

00	Draft Issue	AD	KW	18/12/19
Figure Number	Rev			Page
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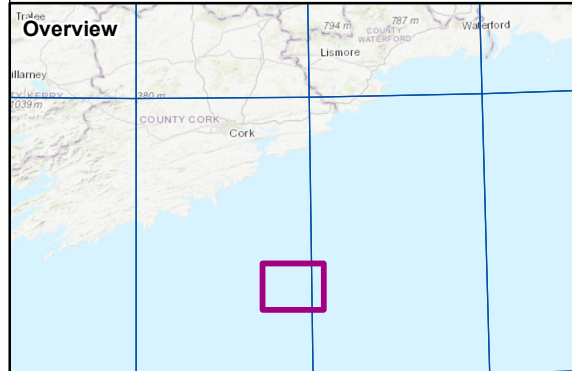
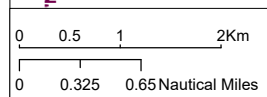
Client	Kinsale Energy	Status	Draft Issue	Drawn By	AD	PM/Checked By	AD/KW	Geodetic Information:	CRS: ED 1950 UTM Zone 29N
Project	Kinsale Decommissioning Survey	Project Number	EOGG2018	Scale @ A3	1:75,000	Date Created	19/12/19	Datum:	European 1950
Title	Seven Heads Working Areas							EPSG Code:	23029





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  - 1200m Anchor Radius
  - 1600m Anchor Radius
  - EOGG2018-KIN-20-SWKinsale-Wor...
  - Planned Survey Line

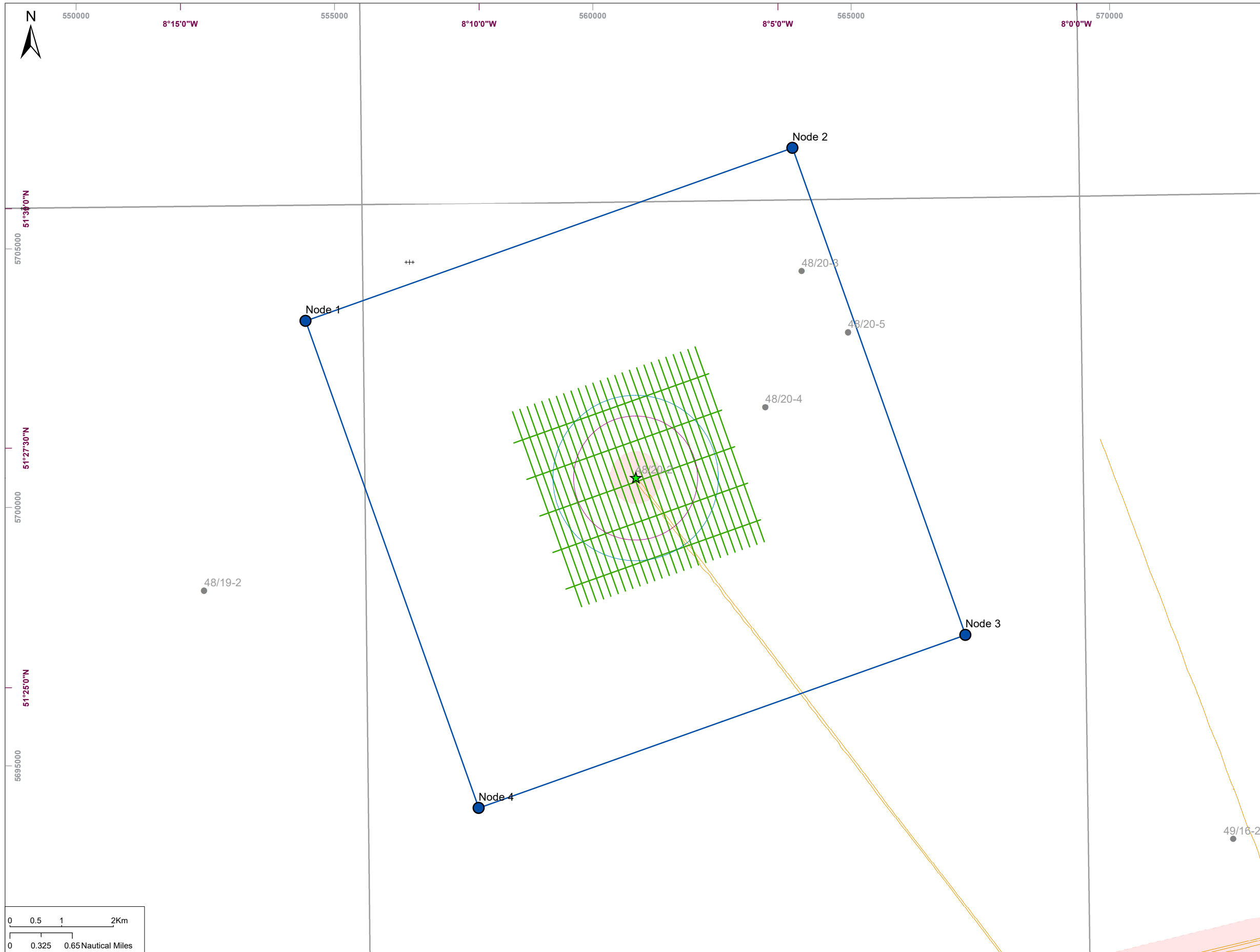


Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance

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Project	Kinsale Decommissioning Survey	Project Number	EOGG2018	Scale @ A3	1:75,000	Date Created	19/12/19	Datum:	European 1950
Title	South-West Kinsale Working Areas							EPSG Code:	23029



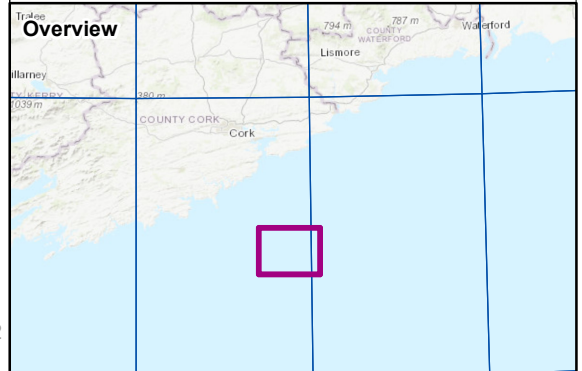
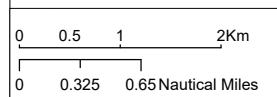


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Project	Kinsale Decommissioning Survey	Project Number	EOGG2018	Scale @ A3	1:75,000	Date Created	19/12/19	Datum:	European 1950
Title	Ballycotton Working Areas							EPSG Code:	23029



## Appendix B - Survey Line Listing

### Seven Heads (CRS – ED50, UTM 29N)

FID	Line Length	SOL Easting	SOL Northing	SOL Latitude	SOL Longitude	EOL Easting	EOL Northing	EOL Latitude	EOL Longitude
0	4000	546549.66	5669156.13	51° 10' 15.214" N	8° 20' 3.091" W	543721.23	5671984.56	51° 11' 47.570" N	8° 22' 27.482" W
1	5558.15	547928.52	5670534.99	51° 10' 59.435" N	8° 18' 51.435" W	543998.31	5674465.2	51° 13' 7.789" N	8° 22' 12.113" W
2	5558.15	548034.58	5670641.06	51° 11' 2.836" N	8° 18' 45.922" W	544104.38	5674571.26	51° 13' 11.192" N	8° 22' 6.599" W
3	5558.15	547822.45	5670428.93	51° 10' 56.034" N	8° 18' 56.948" W	543892.25	5674359.13	51° 13' 4.385" N	8° 22' 17.626" W
4	11388.81	552263.55	5666624.22	51° 8' 51.483" N	8° 15' 10.224" W	544210.44	5674677.33	51° 13' 14.596" N	8° 22' 1.085" W
5	5558.15	547716.39	5670322.86	51° 10' 52.633" N	8° 19' 2.462" W	543786.18	5674253.07	51° 13' 0.981" N	8° 22' 23.140" W
6	11388.81	552369.62	5666730.29	51° 8' 54.881" N	8° 15' 4.710" W	544316.51	5674783.4	51° 13' 18.000" N	8° 21' 55.571" W
7	5558.15	547610.32	5670216.79	51° 10' 49.231" N	8° 19' 7.975" W	543680.11	5674147	51° 12' 57.577" N	8° 22' 28.653" W
8	11388.81	552475.68	5666836.36	51° 8' 58.280" N	8° 14' 59.196" W	544422.58	5674889.46	51° 13' 21.403" N	8° 21' 50.056" W
9	5558.15	547504.25	5670110.73	51° 10' 45.830" N	8° 19' 13.487" W	543574.05	5674040.93	51° 12' 54.173" N	8° 22' 34.166" W
10	11388.81	552581.75	5666942.42	51° 9' 1.678" N	8° 14' 53.682" W	544528.64	5674995.53	51° 13' 24.807" N	8° 21' 44.542" W
11	5558.15	547398.19	5670004.66	51° 10' 42.428" N	8° 19' 19.000" W	543467.98	5673934.87	51° 12' 50.769" N	8° 22' 39.678" W
12	11388.81	552687.81	5667048.49	51° 9' 5.076" N	8° 14' 48.168" W	544634.71	5675101.59	51° 13' 28.210" N	8° 21' 39.027" W
13	5558.15	547292.12	5669898.6	51° 10' 39.027" N	8° 19' 24.512" W	543361.92	5673828.8	51° 12' 47.365" N	8° 22' 45.191" W
14	11388.81	552793.88	5667154.55	51° 9' 8.474" N	8° 14' 42.653" W	544740.77	5675207.66	51° 13' 31.613" N	8° 21' 33.512" W
15	5558.15	547186.06	5669792.53	51° 10' 35.625" N	8° 19' 30.024" W	543255.85	5673722.74	51° 12' 43.960" N	8° 22' 50.703" W
16	11388.81	552899.95	5667260.62	51° 9' 11.872" N	8° 14' 37.138" W	544846.84	5675313.73	51° 13' 35.017" N	8° 21' 27.996" W
17	5558.15	547079.99	5669686.46	51° 10' 32.223" N	8° 19' 35.536" W	543149.78	5673616.67	51° 12' 40.556" N	8° 22' 56.215" W
18	11388.81	553006.01	5667366.69	51° 9' 15.270" N	8° 14' 31.623" W	544952.91	5675419.79	51° 13' 38.420" N	8° 21' 22.481" W
19	5558.15	546973.92	5669580.4	51° 10' 28.822" N	8° 19' 41.047" W	543043.72	5673510.6	51° 12' 37.152" N	8° 23' 1.727" W
20	11388.81	553112.08	5667472.75	51° 9' 18.667" N	8° 14' 26.108" W	545058.97	5675525.86	51° 13' 41.823" N	8° 21' 16.965" W
21	11388.81	553218.14	5667578.82	51° 9' 22.065" N	8° 14' 20.592" W	545165.04	5675631.92	51° 13' 45.226" N	8° 21' 11.449" W
22	11388.81	553324.21	5667684.88	51° 9' 25.463" N	8° 14' 15.076" W	545271.1	5675737.99	51° 13' 48.629" N	8° 21' 5.932" W
23	11388.81	553430.28	5667790.95	51° 9' 28.860" N	8° 14' 9.560" W	545377.17	5675844.06	51° 13' 52.032" N	8° 21' 0.416" W

24	6643.24	546867.86	5669474.33	51° 10' 25.420" N	8° 19' 46.559" W	542170.38	5674171.81	51° 12' 58.789" N	8° 23' 46.452" W
25	6643.24	546761.79	5669368.27	51° 10' 22.018" N	8° 19' 52.070" W	542064.32	5674065.74	51° 12' 55.384" N	8° 23' 51.963" W
26	6643.24	546655.73	5669262.2	51° 10' 18.616" N	8° 19' 57.580" W	541958.25	5673959.68	51° 12' 51.978" N	8° 23' 57.474" W
27	4000	544574.55	5670919.11	51° 11' 12.846" N	8° 21' 43.998" W	541746.12	5673747.54	51° 12' 45.168" N	8° 24' 8.495" W
28	6643.24	546549.66	5669156.13	51° 10' 15.214" N	8° 20' 3.091" W	541852.18	5673853.61	51° 12' 48.573" N	8° 24' 2.985" W
29	4000	544468.48	5670813.05	51° 11' 9.442" N	8° 21' 49.509" W	541640.05	5673641.48	51° 12' 41.763" N	8° 24' 14.006" W
30	4000	544362.41	5670706.99	51° 11' 6.039" N	8° 21' 55.019" W	541533.99	5673535.41	51° 12' 38.357" N	8° 24' 19.516" W
31	4000	544256.35	5670600.92	51° 11' 2.635" N	8° 22' 0.529" W	541427.92	5673429.35	51° 12' 34.952" N	8° 24' 25.026" W
32	4000	544150.28	5670494.85	51° 10' 59.231" N	8° 22' 6.038" W	541321.85	5673323.28	51° 12' 31.546" N	8° 24' 30.536" W
33	4000	544044.21	5670388.79	51° 10' 55.828" N	8° 22' 11.548" W	541215.79	5673217.21	51° 12' 28.140" N	8° 24' 36.045" W
34	4000	543938.15	5670282.72	51° 10' 52.424" N	8° 22' 17.057" W	541109.72	5673111.15	51° 12' 24.735" N	8° 24' 41.555" W
35	4000	543832.08	5670176.65	51° 10' 49.020" N	8° 22' 22.566" W	541003.65	5673005.08	51° 12' 21.329" N	8° 24' 47.064" W
36	4000	543726.02	5670070.59	51° 10' 45.616" N	8° 22' 28.075" W	540897.59	5672899.02	51° 12' 17.923" N	8° 24' 52.573" W
37	4000	543619.95	5669964.52	51° 10' 42.212" N	8° 22' 33.583" W	540791.52	5672792.95	51° 12' 14.517" N	8° 24' 58.081" W
38	4000	543513.88	5669858.46	51° 10' 38.808" N	8° 22' 39.091" W	540685.46	5672686.88	51° 12' 11.111" N	8° 25' 3.590" W
39	4000	543407.82	5669752.39	51° 10' 35.403" N	8° 22' 44.599" W	540579.39	5672580.82	51° 12' 7.705" N	8° 25' 9.098" W
40	4000	543301.75	5669646.32	51° 10' 31.999" N	8° 22' 50.107" W	540473.32	5672474.75	51° 12' 4.299" N	8° 25' 14.606" W
41	4000	543195.69	5669540.26	51° 10' 28.595" N	8° 22' 55.615" W	540367.26	5672368.69	51° 12' 0.892" N	8° 25' 20.114" W
42	4000	543089.62	5669434.19	51° 10' 25.190" N	8° 23' 1.122" W	540261.19	5672262.62	51° 11' 57.486" N	8° 25' 25.621" W
43	4000	542983.55	5669328.13	51° 10' 21.786" N	8° 23' 6.629" W	540155.13	5672156.55	51° 11' 54.080" N	8° 25' 31.128" W
44	4000	542877.49	5669222.06	51° 10' 18.381" N	8° 23' 12.136" W	540049.06	5672050.49	51° 11' 50.673" N	8° 25' 36.635" W
45	4000	542771.42	5669115.99	51° 10' 14.977" N	8° 23' 17.643" W	539942.99	5671944.42	51° 11' 47.267" N	8° 25' 42.142" W
46	4000	542665.36	5669009.93	51° 10' 11.572" N	8° 23' 23.149" W	539836.93	5671838.36	51° 11' 43.860" N	8° 25' 47.649" W
47	4000	542559.29	5668903.86	51° 10' 8.167" N	8° 23' 28.656" W	539730.86	5671732.29	51° 11' 40.454" N	8° 25' 53.155" W
48	4000	542453.22	5668797.8	51° 10' 4.762" N	8° 23' 34.162" W	539624.8	5671626.22	51° 11' 37.047" N	8° 25' 58.661" W
49	4000	542347.16	5668691.73	51° 10' 1.357" N	8° 23' 39.667" W	539518.73	5671520.16	51° 11' 33.640" N	8° 26' 4.167" W
50	5400	553536.34	5667897.02	51° 9' 32.258" N	8° 14' 4.044" W	549717.97	5671715.39	51° 11' 37.092" N	8° 17' 18.689" W
51	5400	553642.41	5668003.08	51° 9' 35.655" N	8° 13' 58.527" W	549824.03	5671821.46	51° 11' 40.492" N	8° 17' 13.172" W
52	5400	553748.47	5668109.15	51° 9' 39.052" N	8° 13' 53.011" W	549930.1	5671927.52	51° 11' 43.892" N	8° 17' 7.655" W

53	5400	553854.54	5668215.21	51° 9' 42.449" N	8° 13' 47.494" W	550036.16	5672033.59	51° 11' 47.292" N	8° 17' 2.138" W
54	5400	553960.61	5668321.28	51° 9' 45.847" N	8° 13' 41.976" W	550142.23	5672139.66	51° 11' 50.692" N	8° 16' 56.620" W
55	5400	554066.67	5668427.35	51° 9' 49.244" N	8° 13' 36.459" W	550248.3	5672245.72	51° 11' 54.091" N	8° 16' 51.103" W
56	5400	554172.74	5668533.41	51° 9' 52.641" N	8° 13' 30.941" W	550354.36	5672351.79	51° 11' 57.491" N	8° 16' 45.585" W
57	5400	554278.8	5668639.48	51° 9' 56.038" N	8° 13' 25.424" W	550460.43	5672457.85	51° 12' 0.890" N	8° 16' 40.067" W
58	5400	554384.87	5668745.54	51° 9' 59.435" N	8° 13' 19.905" W	550566.49	5672563.92	51° 12' 4.290" N	8° 16' 34.549" W
59	5400	554490.94	5668851.61	51° 10' 2.831" N	8° 13' 14.387" W	550672.56	5672669.99	51° 12' 7.689" N	8° 16' 29.030" W
60	5400	554597	5668957.68	51° 10' 6.228" N	8° 13' 8.869" W	550778.63	5672776.05	51° 12' 11.088" N	8° 16' 23.511" W
61	5400	554703.07	5669063.74	51° 10' 9.625" N	8° 13' 3.350" W	550884.69	5672882.12	51° 12' 14.487" N	8° 16' 17.992" W
62	5400	554809.13	5669169.81	51° 10' 13.021" N	8° 12' 57.831" W	550990.76	5672988.18	51° 12' 17.887" N	8° 16' 12.473" W
63	5400	554915.2	5669275.87	51° 10' 16.418" N	8° 12' 52.312" W	551096.82	5673094.25	51° 12' 21.286" N	8° 16' 6.954" W
64	5400	555021.27	5669381.94	51° 10' 19.814" N	8° 12' 46.792" W	551202.89	5673200.32	51° 12' 24.684" N	8° 16' 1.434" W
65	4000	554137.38	5670477.96	51° 10' 55.594" N	8° 13' 31.707" W	551308.96	5673306.38	51° 12' 28.083" N	8° 15' 55.914" W
66	4000	554243.45	5670584.02	51° 10' 58.990" N	8° 13' 26.187" W	551415.02	5673412.45	51° 12' 31.482" N	8° 15' 50.394" W
67	4000	554349.52	5670690.09	51° 11' 2.387" N	8° 13' 20.667" W	551521.09	5673518.52	51° 12' 34.881" N	8° 15' 44.874" W
68	4000	554455.58	5670796.15	51° 11' 5.784" N	8° 13' 15.147" W	551627.15	5673624.58	51° 12' 38.280" N	8° 15' 39.353" W
69	4000	554561.65	5670902.22	51° 11' 9.181" N	8° 13' 9.626" W	551733.22	5673730.65	51° 12' 41.678" N	8° 15' 33.832" W
70	4000	554667.71	5671008.29	51° 11' 12.577" N	8° 13' 4.105" W	551839.29	5673836.71	51° 12' 45.077" N	8° 15' 28.311" W
71	4000	554773.78	5671114.35	51° 11' 15.974" N	8° 12' 58.584" W	551945.35	5673942.78	51° 12' 48.475" N	8° 15' 22.790" W
72	5175.76	553961.15	5672140.2	51° 11' 49.457" N	8° 13' 39.884" W	550301.33	5668480.38	51° 9' 52.197" N	8° 16' 50.268" W
73	5175.76	553254.04	5672847.3	51° 12' 12.583" N	8° 14' 15.934" W	549594.22	5669187.49	51° 10' 15.307" N	8° 17' 26.319" W
74	5175.76	554668.25	5671433.09	51° 11' 26.327" N	8° 13' 3.845" W	551008.44	5667773.27	51° 9' 29.084" N	8° 16' 14.228" W
75	5175.76	552546.93	5673554.41	51° 12' 35.706" N	8° 14' 51.993" W	548887.12	5669894.59	51° 10' 38.414" N	8° 18' 2.380" W
76	4050	554579.32	5669929.95	51° 10' 37.704" N	8° 13' 9.247" W	551715.54	5667066.17	51° 9' 5.967" N	8° 15' 38.197" W
77	7414.42	541950.31	5668926.77	51° 10' 9.070" N	8° 24' 0.000" W	547193.09	5674169.56	51° 12' 57.301" N	8° 19' 27.590" W
78	7414.42	541243.2	5669633.88	51° 10' 32.144" N	8° 24' 36.115" W	546485.99	5674876.66	51° 13' 20.397" N	8° 20' 3.703" W
79	7414.42	540536.09	5670340.98	51° 10' 55.215" N	8° 25' 12.239" W	545778.88	5675583.77	51° 13' 43.491" N	8° 20' 39.826" W
80	4000	545778.88	5669926.91	51° 10' 40.387" N	8° 20' 42.424" W	548607.31	5672755.34	51° 12' 11.098" N	8° 18' 15.395" W
81	4000	539836.74	5671055.84	51° 11' 18.531" N	8° 25' 47.971" W	542665.17	5673884.27	51° 12' 49.349" N	8° 23' 21.074" W

82	4201.91	544929	5670491.25	51° 10' 58.896" N	8° 21' 25.935" W	547900.2	5673462.45	51° 12' 34.201" N	8° 18' 51.487" W
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### SW Kinsale (CRS – ED50, UTM 29N)

FID	Line Length	SOL Easting	SOL Northing	SOL Latitude	SOL Longitude	EOL Easting	EOL Northing	EOL Latitude	EOL Longitude
0	4058.67	561 598.71	5 688 390.70	51° 20' 32.647" N	08° 06' 056.358" W	562 958.16	5 684 566.48	51° 18' 28.336" N	08° 05' 048.539" W
1	4058.67	561 457.37	5 688 340.46	51° 20' 31.076" N	08° 07' 003.693" W	562 816.82	5 684 516.23	51° 18' 26.767" N	08° 05' 055.869" W
2	4058.67	561 740.04	5 688 440.95	51° 20' 34.218" N	08° 06' 049.023" W	563 099.49	5 684 616.72	51° 18' 29.906" N	08° 05' 041.208" W
3	4058.67	561 316.04	5 688 290.22	51° 20' 29.505" N	08° 07' 011.028" W	562 675.49	5 684 465.99	51° 18' 25.196" N	08° 06' 003.199" W
4	4058.67	561 881.38	5 688 491.19	51° 20' 35.789" N	08° 06' 041.688" W	563 240.83	5 684 666.96	51° 18' 31.476" N	08° 05' 033.878" W
5	4058.67	561 174.70	5 688 239.98	51° 20' 27.934" N	08° 07' 018.363" W	562 534.15	5 684 415.75	51° 18' 23.626" N	08° 06' 010.529" W
6	4058.67	562 022.71	5 688 541.43	51° 20' 37.360" N	08° 06' 034.352" W	563 382.16	5 684 717.20	51° 18' 33.045" N	08° 05' 026.547" W
7	4058.67	561 033.36	5 688 189.73	51° 20' 26.362" N	08° 07' 025.698" W	562 392.82	5 684 365.51	51° 18' 22.056" N	08° 06' 017.858" W
8	4058.67	562 164.05	5 688 591.67	51° 20' 38.931" N	08° 06' 027.017" W	563 523.50	5 684 767.45	51° 18' 34.615" N	08° 05' 019.217" W
9	4058.67	560 892.03	5 688 139.49	51° 20' 24.791" N	08° 07' 033.032" W	562 251.48	5 684 315.26	51° 18' 20.486" N	08° 06' 025.188" W
10	4058.67	562 305.38	5 688 641.92	51° 20' 40.501" N	08° 06' 019.681" W	563 664.83	5 684 817.69	51° 18' 36.184" N	08° 05' 011.886" W
11	4058.67	560 750.69	5 688 089.25	51° 20' 23.219" N	08° 07' 040.366" W	562 110.14	5 684 265.02	51° 18' 18.915" N	08° 06' 032.517" W
12	4058.67	562 446.72	5 688 692.16	51° 20' 42.071" N	08° 06' 012.345" W	563 806.17	5 684 867.93	51° 18' 37.753" N	08° 05' 004.555" W
13	4058.67	560 609.36	5 688 039.01	51° 20' 21.647" N	08° 07' 047.701" W	561 968.81	5 684 214.78	51° 18' 17.344" N	08° 06' 039.847" W
14	4058.67	562 588.05	5 688 742.40	51° 20' 43.641" N	08° 06' 005.009" W	563 947.50	5 684 918.17	51° 18' 39.322" N	08° 04' 057.224" W
15	4058.67	560 468.02	5 687 988.76	51° 20' 20.075" N	08° 07' 055.035" W	561 827.47	5 684 164.54	51° 18' 15.773" N	08° 06' 047.176" W
16	4058.67	562 729.39	5 688 792.64	51° 20' 45.211" N	08° 05' 057.673" W	564 088.84	5 684 968.42	51° 18' 40.891" N	08° 04' 049.893" W
17	4058.67	560 326.69	5 687 938.52	51° 20' 18.503" N	08° 08' 002.368" W	561 686.14	5 684 114.29	51° 18' 14.203" N	08° 06' 054.505" W
18	4058.67	562 870.73	5 688 842.89	51° 20' 46.781" N	08° 05' 050.337" W	564 230.18	5 685 018.66	51° 18' 42.460" N	08° 04' 042.561" W
19	4058.67	560 185.35	5 687 888.28	51° 20' 16.931" N	08° 08' 009.702" W	561 544.80	5 684 064.05	51° 18' 12.631" N	08° 07' 001.834" W
20	4058.67	563 012.06	5 688 893.13	51° 20' 48.351" N	08° 05' 043.001" W	564 371.51	5 685 068.90	51° 18' 44.029" N	08° 04' 035.230" W

<b>21</b>	4058.67	560 044.02	5 687 838.04	51° 20' 15.359" N	08° 08' 017.036" W	561 403.47	5 684 013.81	51° 18' 11.060" N	08° 07' 009.162" W
<b>22</b>	4058.67	563 153.40	5 688 943.37	51° 20' 49.921" N	08° 05' 035.664" W	564 512.85	5 685 119.14	51° 18' 45.597" N	08° 04' 027.898" W
<b>23</b>	4058.67	559 902.68	5 687 787.79	51° 20' 13.786" N	08° 08' 024.369" W	561 262.13	5 683 963.57	51° 18' 09.489" N	08° 07' 016.491" W
<b>24</b>	4058.67	563 294.73	5 688 993.61	51° 20' 51.490" N	08° 05' 028.327" W	564 654.18	5 685 169.39	51° 18' 47.166" N	08° 04' 020.566" W
<b>25</b>	4058.67	559 761.35	5 687 737.55	51° 20' 12.214" N	08° 08' 031.703" W	561 120.80	5 683 913.32	51° 18' 07.917" N	08° 07' 023.819" W
<b>26</b>	4058.67	563 436.07	5 689 043.85	51° 20' 53.060" N	08° 05' 020.991" W	564 795.52	5 685 219.63	51° 18' 48.734" N	08° 04' 013.235" W
<b>27</b>	4058.67	559 620.01	5 687 687.31	51° 20' 10.641" N	08° 08' 039.036" W	560 979.46	5 683 863.08	51° 18' 06.346" N	08° 07' 031.148" W
<b>28</b>	4058.67	563 577.40	5 689 094.10	51° 20' 54.629" N	08° 05' 013.654" W	564 936.85	5 685 269.87	51° 18' 50.302" N	08° 04' 005.902" W
<b>29</b>	4058.67	559 478.68	5 687 637.07	51° 20' 09.068" N	08° 08' 046.369" W	560 838.13	5 683 812.84	51° 18' 04.774" N	08° 07' 038.476" W
<b>30</b>	4058.67	563 718.74	5 689 144.34	51° 20' 56.198" N	08° 05' 006.317" W	565 078.19	5 685 320.11	51° 18' 51.870" N	08° 03' 058.570" W
<b>31</b>	4058.67	559 337.34	5 687 586.82	51° 20' 07.495" N	08° 08' 053.702" W	560 696.79	5 683 762.60	51° 18' 03.202" N	08° 07' 045.804" W
<b>32</b>	4058.67	563 860.07	5 689 194.58	51° 20' 57.767" N	08° 04' 058.979" W	565 219.52	5 685 370.36	51° 18' 53.438" N	08° 03' 051.238" W
<b>33</b>	5167.15	564 741.17	5 687 269.85	51° 19' 55.113" N	08° 04' 014.701" W	559 872.49	5 685 539.12	51° 19' 01.016" N	08° 08' 027.289" W
<b>34</b>	5167.15	564 489.96	5 687 976.53	51° 20' 18.088" N	08° 04' 027.219" W	559 621.28	5 686 245.80	51° 19' 23.984" N	08° 08' 039.839" W
<b>35</b>	5167.15	564 992.38	5 686 563.18	51° 19' 32.138" N	08° 04' 002.186" W	560 123.71	5 684 832.44	51° 18' 38.048" N	08° 08' 014.744" W
<b>36</b>	5167.15	564 238.74	5 688 683.21	51° 20' 41.063" N	08° 04' 039.740" W	559 370.07	5 686 952.47	51° 19' 46.951" N	08° 08' 052.391" W
<b>37</b>	5167.15	565 243.59	5 685 856.50	51° 19' 09.162" N	08° 03' 049.675" W	560 374.92	5 684 125.76	51° 18' 15.080" N	08° 08' 002.201" W



**Ballycotton (CRS – ED50, UTM 29N)**

FID	Line Length	SOL Easting	SOL Northing	SOL Latitude	SOL Longitude	EOL Easting	EOL Northing	EOL Latitude	EOL Longitude
0	4000	561479.8	5698682	51° 26' 5.768" N	8° 6' 56.088" W	560140	5702451	51° 28' 8.270" N	8° 8' 3.158" W
1	4000	561621.1	5698732	51° 26' 7.339" N	8° 6' 48.738" W	560281.4	5702501	51° 28' 9.842" N	8° 7' 55.803" W
2	4000	561338.5	5698631	51° 26' 4.197" N	8° 7' 3.438" W	559998.7	5702400	51° 28' 6.698" N	8° 8' 10.513" W
3	4000	561762.5	5698782	51° 26' 8.910" N	8° 6' 41.388" W	560422.7	5702551	51° 28' 11.414" N	8° 7' 48.448" W
4	4000	561197.1	5698581	51° 26' 2.626" N	8° 7' 10.787" W	559857.3	5702350	51° 28' 5.126" N	8° 8' 17.867" W
5	4000	561903.8	5698832	51° 26' 10.480" N	8° 6' 34.037" W	560564	5702601	51° 28' 12.986" N	8° 7' 41.093" W
6	4000	561055.8	5698531	51° 26' 1.055" N	8° 7' 18.137" W	559716	5702300	51° 28' 3.553" N	8° 8' 25.222" W
7	4000	562045.2	5698883	51° 26' 12.051" N	8° 6' 26.687" W	560705.4	5702652	51° 28' 14.557" N	8° 7' 33.738" W
8	4000	560914.5	5698481	51° 25' 59.484" N	8° 7' 25.486" W	559574.7	5702250	51° 28' 1.981" N	8° 8' 32.576" W
9	4000	562186.5	5698933	51° 26' 13.621" N	8° 6' 19.336" W	560846.7	5702702	51° 28' 16.129" N	8° 7' 26.382" W
10	4000	560773.1	5698430	51° 25' 57.912" N	8° 7' 32.836" W	559433.3	5702199	51° 28' 0.408" N	8° 8' 39.930" W
11	4000	562327.8	5698983	51° 26' 15.191" N	8° 6' 11.986" W	560988	5702752	51° 28' 17.700" N	8° 7' 19.027" W
12	4000	560631.8	5698380	51° 25' 56.341" N	8° 7' 40.185" W	559292	5702149	51° 27' 58.836" N	8° 8' 47.284" W
13	4000	562469.2	5699033	51° 26' 16.762" N	8° 6' 4.635" W	561129.4	5702802	51° 28' 19.271" N	8° 7' 11.671" W
14	4000	560490.5	5698330	51° 25' 54.769" N	8° 7' 47.534" W	559150.7	5702099	51° 27' 57.263" N	8° 8' 54.638" W
15	4000	562610.5	5699084	51° 26' 18.331" N	8° 5' 57.284" W	561270.7	5702853	51° 28' 20.842" N	8° 7' 4.315" W
16	4000	560349.1	5698280	51° 25' 53.197" N	8° 7' 54.883" W	559009.3	5702049	51° 27' 55.690" N	8° 9' 1.992" W
17	4000	562751.8	5699134	51° 26' 19.901" N	8° 5' 49.933" W	561412	5702903	51° 28' 22.413" N	8° 6' 56.959" W
18	4000	560207.8	5698229	51° 25' 51.625" N	8° 8' 2.231" W	558868	5701998	51° 27' 54.117" N	8° 9' 9.345" W
19	4000	562893.2	5699184	51° 26' 21.471" N	8° 5' 42.581" W	561553.4	5702953	51° 28' 23.984" N	8° 6' 49.603" W
20	4000	560066.5	5698179	51° 25' 50.053" N	8° 8' 9.580" W	558726.7	5701948	51° 27' 52.543" N	8° 9' 16.699" W
21	4000	563034.5	5699234	51° 26' 23.041" N	8° 5' 35.230" W	561694.7	5703003	51° 28' 25.555" N	8° 6' 42.247" W
22	4000	559925.1	5698129	51° 25' 48.481" N	8° 8' 16.929" W	558585.3	5701898	51° 27' 50.970" N	8° 9' 24.052" W
23	4000	563175.8	5699285	51° 26' 24.610" N	8° 5' 27.878" W	561836	5703054	51° 28' 27.125" N	8° 6' 34.890" W
24	4000	559783.8	5698079	51° 25' 46.908" N	8° 8' 24.277" W	558444	5701848	51° 27' 49.396" N	8° 9' 31.405" W
25	4000	563317.2	5699335	51° 26' 26.179" N	8° 5' 20.527" W	561977.4	5703104	51° 28' 28.696" N	8° 6' 27.534" W

<b>26</b>	4000	562743.1	5701174	51° 27' 25.926" N	8° 5' 49.084" W	558974.1	5699834	51° 26' 44.021" N	8° 9' 5.145" W
<b>27</b>	4000	562491.9	5701880	51° 27' 48.898" N	8° 6' 1.649" W	558722.9	5700541	51° 27' 6.987" N	8° 9' 17.734" W
<b>28</b>	4000	562994.3	5700467	51° 27' 2.954" N	8° 5' 36.523" W	559225.3	5699127	51° 26' 21.054" N	8° 8' 52.560" W
<b>29</b>	4000	562240.6	5702587	51° 28' 11.869" N	8° 6' 14.217" W	558471.7	5701247	51° 27' 29.953" N	8° 9' 30.327" W
<b>30</b>	4000	563245.5	5699760	51° 26' 39.981" N	8° 5' 23.965" W	559476.6	5698421	51° 25' 58.088" N	8° 8' 39.978" W

## **Appendix C – Vessel Data Sheet**

TBC once vessel confirmed