



**Roinn Cumarsáide, Gníomhaithe  
ar son na hAeráide & Comhshaoil**  
Department of Communications,  
Climate Action & Environment

Application for approval to conduct a  
**Seabed Debris Clearance, Environmental Baseline and Habitat Assessment**  
**Site Survey**

in Quad 48

Standard Exploration Licence (SEL) 1/11 in the North Celtic Sea Basin

by

Exola DAC Limited,

a wholly owned subsidiary of Providence Resources Plc.

Application Date: 21 February 2019

**PAD Technical Evaluation & Recommendations**

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**Roinn Cumarsáide, Gníomhaithe ar son na hAeráide & Comhshaoil**  
*Department of Communications, Climate Action & Environment*

30<sup>th</sup> July 2019

## **PAD TECHNICAL EVALUATION & RECOMMENDATIONS**

### **Executive Summary**

On 21<sup>st</sup> February, 2019 Exola DAC, a wholly owned subsidiary of Providence Resources P.l.c. (Exola) submitted an application to the Department to conduct a site survey within the bounds of Standard Exploration Licence (SEL) 1/11 in the North Celtic Sea Basin. The site survey will comprise a seabed and shallow geophysical survey and an environmental baseline and habitat assessment survey to be conducted over 3 survey areas. The following documents were provided to the Department:

- Application for Approval to Conduct a Seabed Debris Clearance, Environmental Baseline and Habitat Assessment site Survey
- Appropriate Assessment Screening and Natura Impact Statement
- Pre-survey Fishery Assessment
- Environmental Impact Assessment (EIA) Screening

### **Aims of the Site survey**

The aims of the survey are as follows:

- Accurately determine water depths and provide information on depth of sediments overlying chalk bedrock and to identify and map any chalk exposures;
- Provide information on seabed and sub seabed conditions to ensure the safe emplacement and operation of a semi-submersible drilling rig at four proposed well locations;
- Provide information on the cultural potential of the survey area, including the location of any shipwrecks or other underwater cultural heritage features;
- Assess the survey area for the presence of any Annex 1 habitats (as defined in the EC Habitats Directive 92/43/EC);
- Obtain environmental baseline samples across the survey area to establish a benchmark for ongoing environmental monitoring as per OSPAR guidelines

### **Location, Timeline and Survey Logistics**

The Site Survey is to be conducted in the North Celtic Sea Basin approximately 43km off the South coast of Ireland in approximately 100m of water (Figure 1). Three areas will be surveyed encompassing 4 potential well locations. There will be two separate survey vessel activity areas and a single environmental control point approximately 10km to the east-southeast (Figure 2). Operations are currently scheduled to take place between 1<sup>st</sup> August and 30<sup>th</sup> November 2019, if the operations have not commenced within this timeframe the operations will be undertaken sometime between 1<sup>st</sup> February and 30<sup>th</sup> November 2020, subject to Ministerial consent and vessel availability. The anticipated duration of this site survey is approximately 16 days (6 days for the geophysical survey and approximately 10 days for the environmental survey).

### **Vessel information**

The survey is to be conducted by Gardline Shipping Ltd. using the Marine Vessel (MV) Kommandor. MV Kommandor is a multi-role survey DP Class II vessel. The marine vessel details were provided to the Department.

In accordance with the Department requirements, a Fisheries Liaison Officer (FLO) and Marine Mammal Observer (MMO) will be on board the vessel for the duration of the survey. The FLO is to maintain good communication with local fisheries and co-ordinates activities. The MMO's monitor marine mammals and log all data according to the standardised forms provided in the DAHG Guidance document and also provides an MMO report to the Regulatory Authorities.

### **Survey Operations**

The site survey will comprise a seabed and shallow geophysical survey and an environmental baseline and habitat assessment survey to be conducted over three survey areas. A shallow geophysical survey will use the following geophysical tools:

- Side scan sonar – Maps the upper layers of the seabed.
- Single-beam echosounder – Used to survey bathymetry and seabed topography.
- Multi-beam echosounder – Used to survey bathymetry and seabed topography.
- Pinger sub-bottom profiler – Provides information to conduct an archaeological assessment and to indicate any shallow drilling hazards.
- Ultra Short Baseline (USBL) beacon system – Utilised to confirm the precise location of underwater equipment.
- Magnetometer – Identifies magnetic anomalies.

The side scan sonar and magnetometer will be towed behind the survey vessel. The echosounders, and pinger will be hull mounted. It is expected that the geophysical equipment listed above will provide the required data for habitat assessment, an archaeological assessment of the site, and will confirm the site does not have non-archaeological debris or hazards.

For the environmental baseline and habitat assessment survey any potentially sensitive habitats identified from anomalies on the geophysical survey data will be investigated using high-resolution video or camera stills. Seabed samples will be taken using a day corer, box corer or dual Van Veen grab, as appropriate, with sampling stations defined by the number of habitats delineated from the geophysical data, or in the absence of different habitats a standard cruciform pattern centred on potential future well locations. Provisional well locations are identified as Well A, B, C & D, well locations are subject to change within the defined working area (Figure 2). The seabed samples will be analysed to provide information on benthic faunal community composition and physico-chemical characteristics of the sediments. A habitat assessment and environmental baseline sampling location will be taken outside of the primary site survey area, up to 10km to the ESE, to be used as a control point (Figure 2).

### **Technical Recommendation**

The application for Approval to Conduct a Seabed Debris Clearance, Environmental Baseline and Habitat Assessment Site Survey has been technically evaluated by PAD Geoscientists. Sufficient information was supplied by the operator for the Department to conduct an evaluation. The following documents were referenced for supplemental information:

- Natura Impact Screening Statement
- Environmental Risk Assessment (EIA Screening) for Annex IV Species

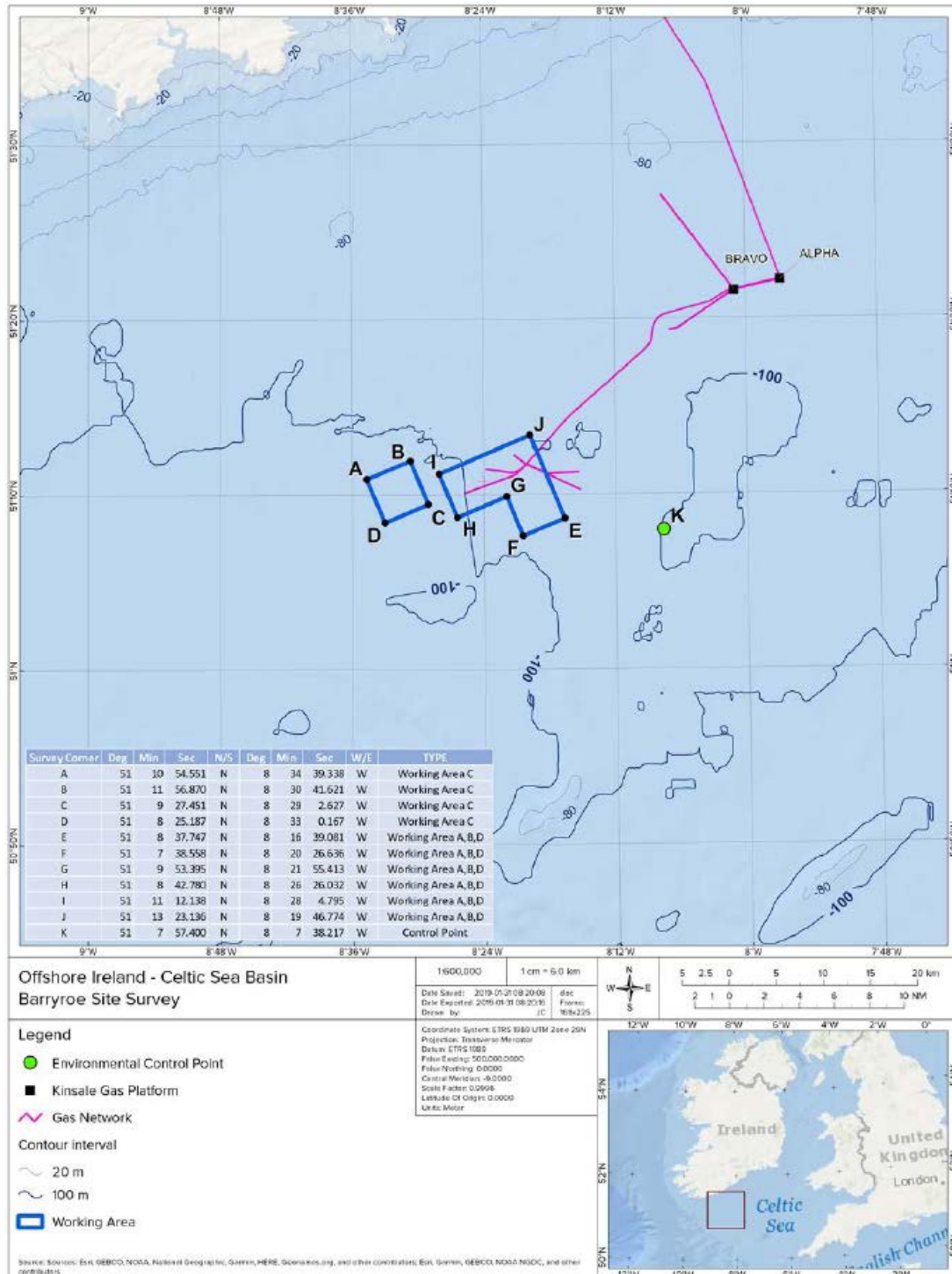
PAD Technical has considered all the technical elements of the site survey application in order to establish the validity of the survey, and have concluded that this survey will provide an improved image of the seabed and shallow subsurface over the survey area. The contractor, Gardline Ltd is a reputable contractor and will utilise industry standard equipment and accurate positioning for this survey.

The acoustic source for this type of survey is significantly less than the energy source associated with conventional 2D and 3D seismic surveys and the duration of the survey is short. No seismic cable is required.

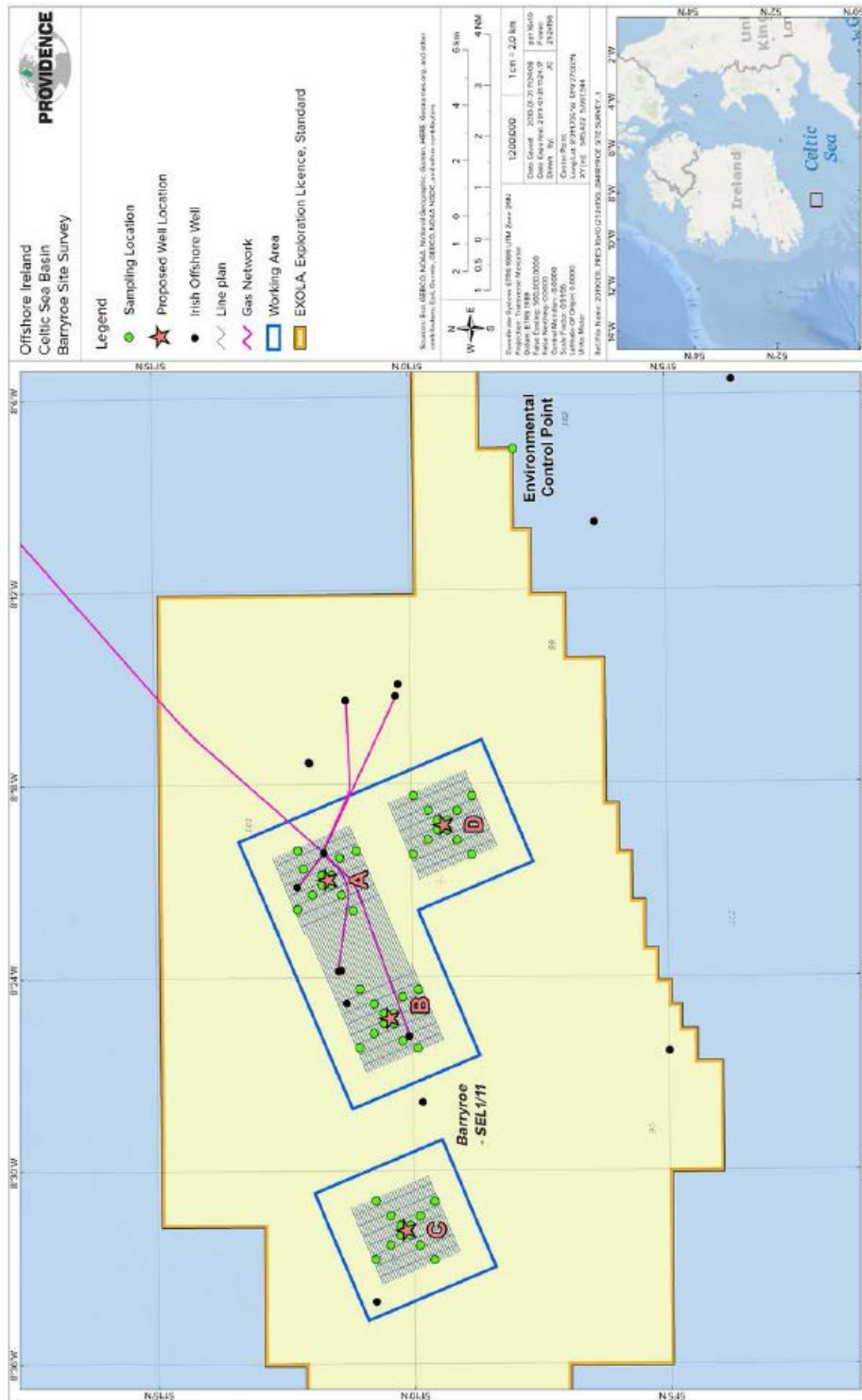
Based on a technical review of the survey programme, it is recommended that approval to conduct the survey be granted subject to the following conditions:

1. All operations shall be conducted in compliance with the provisions of the Rules & Procedures for Manual Offshore Petroleum Exploration Operations (RPM) and shall be carried out between 1<sup>st</sup> August and 30<sup>th</sup> November 2019 or between 1<sup>st</sup> February and 30<sup>th</sup> November 2020.
2. In accordance with Section 2.2.4 of the RPM a Fisheries Liaison Officer (FLO) and Marine Mammal Observer (MMO) must be on board the vessel for the duration of the survey.
3. Gardline Ltd is required to arrange for a radio navigational warning to be broadcast and ensure that daily position reports are sent to the Irish Coast Guard, MRCC Dublin along with a notification of number of persons on board. The Irish Coast Guard, MRCC Dublin, the Marine Survey Office of the Department of Transport, Tourism and Sport and the Department of Communications, Climate Action & Environment (DCCAIE) must be notified on the start and completion of operations.
4. The Department is to be informed on the commencement and completion of the survey. Daily progress reports should be sent to DCCAIE via secure website or by posting to a designated secure website or by emailing (addresses to be advised separately). Gardline Ltd is required to make the daily progress reports available to DCCAIE before noon each day for the duration of the survey. The final progress report should be sent to the DCCAIE.
5. The Department is to be provided with tabulated data on impulsive noise events to be added to the Department of Housing, Planning and Local Government (DHPLG) Impulsive Sound Register. Data to include;
  - Source properties (Hz; SPL, dB re 1  $\mu$ Pa @1m; SEL, dB re 1  $\mu$ Pa<sup>2</sup>s @1m);
  - Cumulative hours of active source;
  - Daily/weekly acquisition details (to include line number and date of acquisition);
  - Daily acquisition maps (to include line numbers).

6. All operations must only take place within the proposed working areas (with the exception of control point K) as delineated by the blue line on the map in Figure 1 and described in the documents and maps submitted by Exola DAC Limited on February 21<sup>st</sup>, 2019.



**Figure 1:** North Celtic Sea Basin Site Survey Location Map, all operations must only take place within the proposed working areas (blue line) with the exception of control point K.



**Figure 2:** Provisional location of proposed survey lines and seabed sampling locations. Provisional proposed future well locations identified as A, B, C & D. Environmental control point highlighted 10km to ESE.

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30<sup>th</sup> July 2019