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: 20 January 2020

PAD Technical Evaluation & Recommendations

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Department of Communications, Climate Action & Environment

07th July 2020

Executive Summary

On 20th January, 2020 Exola DAC, a wholly owned subsidiary of Providence Resources P.l.c. (Exola), submitted an application to the Department to undertake a seabed debris clearance, environmental baseline and habitat assessment site survey over Standard Exploration Licence (SEL) 1/11 in the North Celtic Sea Basin. The key objective of the site survey is to collect data to inform the planning process for an appraisal well at the Barryroe K site location. 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

Note: In line with new procedures introduced in 2019, PAD Technical did not technically assess the application until given clearance by the EAU, post public consultation.

Location, Timeline and Survey Logistics

The site survey is to be carried out in the North Celtic Sea Basin approximately 49km off the coast of Cork in approximately 100m of water (Figure 1). The survey area is approximately 9 km^2 encompassing the potential Barryroe K location. The operational area is approximately 22 km^2 allowing for a buffer around the survey area within which the vessel can manoeuvre during line turns and during equipment deployment and recovery. A single environmental control point, located approximately 7 km to the southeast of the survey area will also be sampled. Operations are currently proposed to take place sometime between 1st April and 30th November 2020, subject to Ministerial consent and vessel availability. If the survey has not commenced within this timeframe, the operations will be undertaken sometime between 1st February 2021 and 30th November 2021, again subject to Ministerial consent and vessel availability. The survey operations will be undertaken over approximately 3 survey working days excluding transit and weather downtime. The geophysical survey will take approximately 1.5 days to complete with the remaining time (approximately 1.5 days) spent collecting the environmental data (grab samples, photography and USBL positioning). Final details, timing and duration of the survey will be communicated to the Department in advance of operations commencing.

Aims of the Site survey

The proposed Barryroe K site survey follows on from the site survey operations undertaken in the Barryroe (SEL/11) licence area at the proposed A and B well locations during September 2019. The aims of the Barryroe K site 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 the proposed well location;
- 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.

Vessel information

At the time of the application the survey was to be conducted by Gardline Shipping Ltd using the Marine Vessel (MV) Kommander, multi-role survey DP Class II vessel. Marine vessel details were provided to the Department. In the event a different vessel is contracted, then Exola will submit a document to the Department seeking permission to substitute the vessel. In accordance with Departmental compliance, 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-ordinate activities. The MMO's role is to monitor marine mammals, to log all data according to the standardised forms provided in the DAHG Guidance document and to provide an MMO report to the Regulatory Authorities.

Survey Operations

The proposed site survey will comprise a seabed and shallow soils survey (geophysical survey) and an environmental baseline and habitat assessment survey to be conducted within a survey area encompassing the proposed Barryroe K well location. The following equipment will be utilised during the survey operations:

- Side scan sonar - maps the upper layers of the seabed.
- Single-beam echosounder- surveys bathymetry and seabed topography.
- Multi-beam echosounder- surveys 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 –utilised to Identify magnetic anomalies.

It is expected that the geophysical equipment will provide the required data for a habitat assessment; an archaeological assessment of the site, as well as confirming the site does not have non-archaeological debris or hazards. The side scan sonar and magnetometer will be towed behind the survey vessel. The echosounders and pinger will be hull mounted. The USBL will be utilised to confirm the precise location of underwater equipment.

An example survey line plan centred on the proposed K well location and the 13 proposed environmental sampling stations can be seen in Figure 2**.** The number and location of these seabed sampling stations will be further defined by the number of habitats delineated by the geophysical survey. Outside of the survey area, additional environmental sampling will be conducted at one control location, located approximately 7 km to the southeast (Figure 1).

Any potentially sensitive habitats identified from anomalies on the geophysical survey data (e.g. MBES and SSS) will be investigated using high-resolution video or camera stills. Seabed samples will be taken using a day grab, box corer or dual Van Veen grab, as appropriate. These samples will be analysed to provide information on benthic faunal community composition and physico-chemical characteristics of the sediments.

PAD Technical Recommendation

The application from Exola to undertake a seabed debris clearance, environmental baseline and habitat assessment site survey has been technically evaluated by PAD Geoscientists. Obtaining data at this site location will allow for the potential emplacement of an additional well, subject to regulatory approval, to the east of the previously surveyed A and B well locations, in order to further appraise the eastern panel of the Barryroe field. Sufficient information was supplied by the operator for the Department to conduct an evaluation.

Information expected to be obtained from the survey are:

- Observer Logs
- Marine Mammal Observer (MMO) Daily Reports and Weekly Summary

- High resolution bathymetry
- Side Scan Sonar data
- Single and Multi-beam Echosounder data
- Pinger Sub-bottom profiler data
- Seabed sediment samples
- Magnetic data
- High Resolution Video and Camera stills

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 Shipping Ltd. is a reputable contractor and will utilise industry standard equipment and accurate positioning for this survey. Gardline Shipping Ltd. has been active in the Irish offshore in the past and has conducted operations to the satisfaction of the Department.

Based on a technical review of the survey programme, it is recommended that approval to conduct the site survey over SEL 1/11 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 early April and late November 2020 or sometime between 1st February 2021 and 30th November 2021.

2. The operator/contractor are required to avoid potential cumulative/in-combination effects arising from adjacent regional survey activity, i.e. a minimum of 100km will be maintained between current survey and any other surveys running concurrently. There is to be co-operation between survey activities in the area.

3. 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.

4. The operator/contractor 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 (DCCAE) must be notified on the start and completion of operations.

5. The Department is to be informed on the commencement and completion of the survey. Daily progress reports should be sent to DCCAE via secure website or by posting to a designated secure website or by emailing (addresses to be advised separately). The operator/contractor is required to make the daily progress reports available to DCCAE before noon each day for the duration of the survey. The final progress report should be sent to the DCCAE.

6. 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 µPa @1m; SEL, dB re 1 $\mu Pa^2 s$ @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).

7. All operations must only take place within the proposed greater working area as delineated by the green square on the map in Figure 1 and described in the documents submitted by Exola DAC Ltd in January 2020.

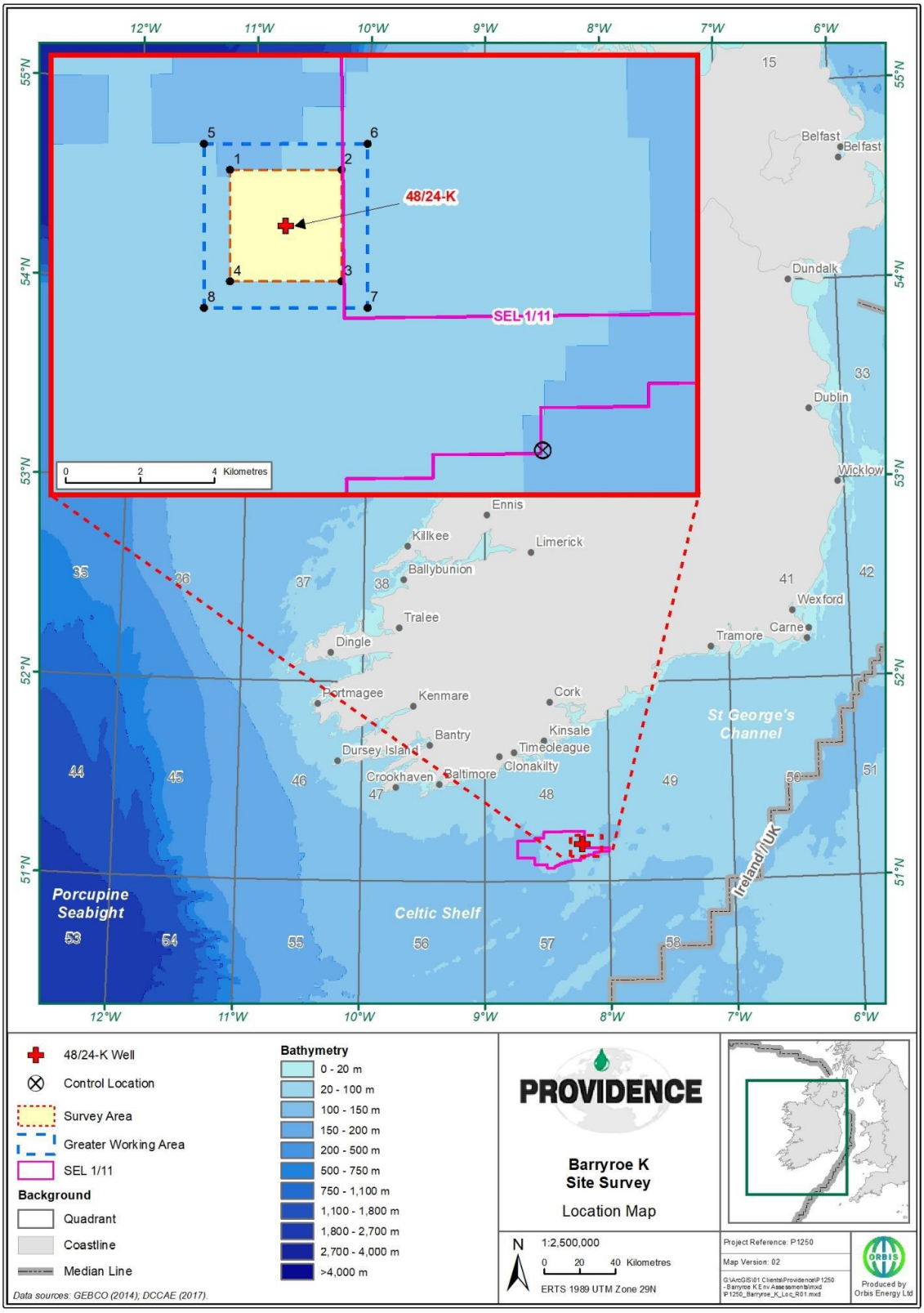

Figure 1: The location map for the proposed Barryroe K Site Survey with the survey area and greater working area outlined. Additional environmental sampling will be conducted at one control location annotated by an **X** on the above map.

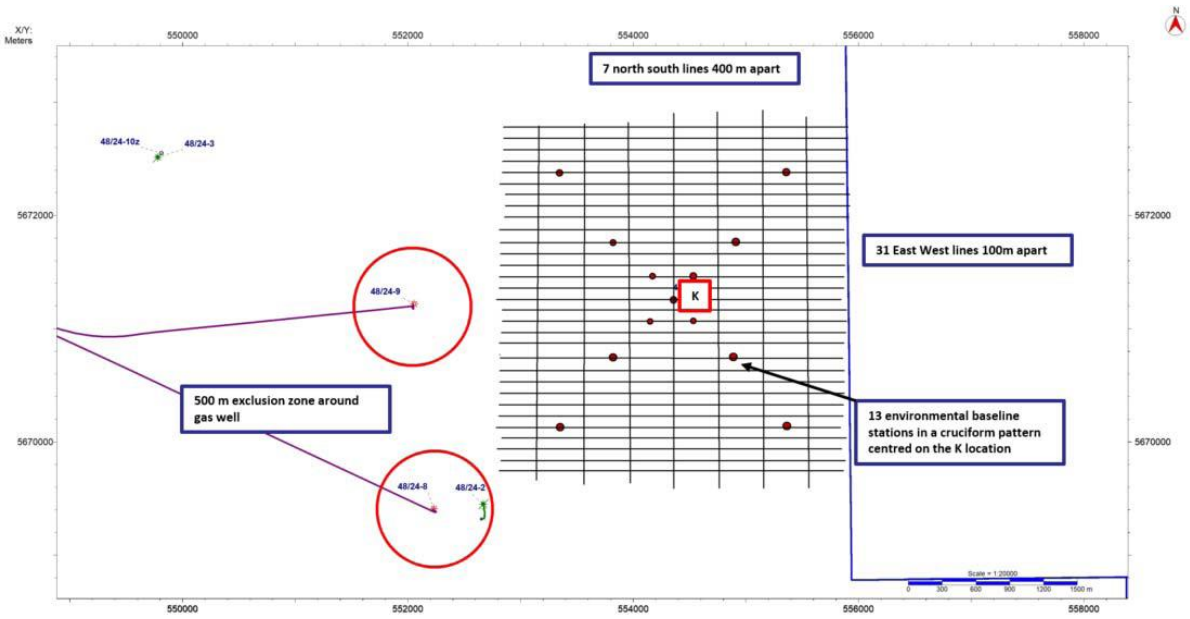

Figure 2: Provisional location of proposed survey lines and seabed samples for proposed future well location K.

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Petroleum Affairs Division

7th July 2020