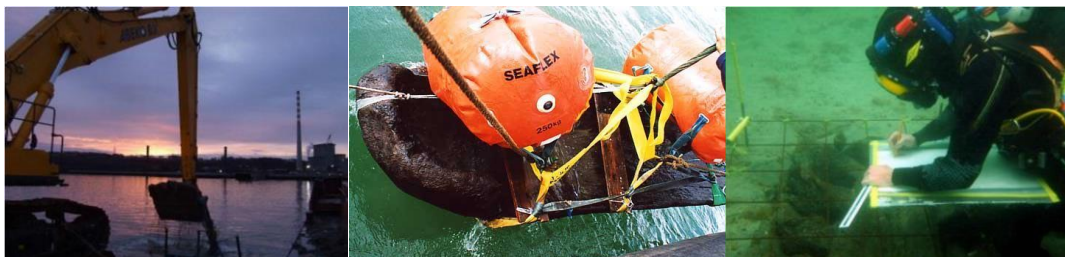
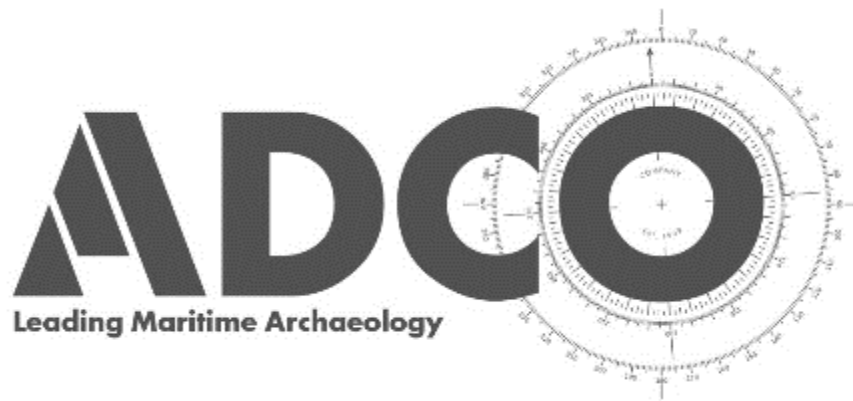




**Underwater Archaeological Impact Assessment**  
**Arklow Bank Wind Park**  
**GI Campaign 2023, Boreholes**





**Underwater Archaeological Impact Assessment  
Arklow Bank Wind Park  
GI Campaign 2, 2022, Boreholes**

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15/11/2023

Client

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## Abbreviations

ABWP -	Arklow Bank Wind Park
ADCO -	Archaeological Diving Company Ltd
AIA -	Archaeological Impact Assessment
BH -	Borehole
CPT -	Cone Penetrating Test
CR -	Cable Route
DHLGH -	Department of Housing, Local Government and Heritage
E -	Easting
GI -	Geotechnical Investigations
ITM -	Irish Transverse Mercator
LA -	Lease Area
LAT -	Lowest Astronomical Tide
MHW -	Mean High Water
N -	Northing
NGR -	National Grid Reference
NIAH -	National Inventory of Architectural Heritage
OD -	Ordnance Datum
SI -	Site Investigations
SMR -	Sites and Monuments Record
UAIA -	Underwater Archaeological Impact Assessment
UTM -	Universal Transverse Mercator

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Plate 1: Photograph of the GII Jack-up Barge that was to facilitate the works.

## 1.0 Overview

The Geotechnical Investigations (GI) proposed to inform Arklow Bank Wind Park phase 2 continued in 2023 with a programme of five nearshore borehole investigations that was carried out in August 2023 by Ground Investigations Ireland (GII).

A comprehensive marine geophysical survey completed in 2019 for the Wind Park Project serves as a robust baseline for further surveys and inputs.<sup>1</sup> A pre-works archaeological assessment report for the 2023 nearshore GI programme concluded that there were no known shipwreck or other archaeological assets within the proposed nearshore Borehole investigation area.<sup>2</sup>

The proposed works were located outside and away from all known archaeological assets and their associated Archaeological Exclusion Zones (AEZ). The National Monuments Service agreed in 2020 that the need for archaeological monitoring aboard the works platform was not required and that the archaeological oversight could be completed remotely by the application of an Archaeology Management Plan (AMP).

The AMP was prepared by ADCO and presented by ADCO at a pre-works archaeological Toolbox Talk online to the project personnel, outlining the archaeological context and describing the AMP. The AMP describes the legal context of works under the National Monuments Act, and the protocols to be followed to ensure that any material of archaeological interest would be recovered, secured and reported in the proper manner.<sup>3</sup>

The results of the borehole campaign were made available to ADCO.<sup>4</sup> The present report comments on the borehole data from an archaeological context.

## 2.0 Borehole Campaign, nearshore

A series of five boreholes was proposed approaching landfall in Johnstown North townland (Figure 1, Table 1). The proposed locations were extended over a distance of approximately 350m, and the closest borehole to shore was located 75m from the Low Water Mark. The boreholes would be progressed to a maximum depth of 25m below seabed level (msbdl).

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<sup>1</sup> The 2019 survey and associated data sets were reviewed archaeologically; Niall Brady, 'Underwater Archaeological Impact Assessment, Arklow Bank Wind Park, Lease Area and Cable Routes', ADCO report for SSE, 2020.

<sup>2</sup> Niall Brady, 'Underwater archaeological impact assessment, Arklow Bank Wind Park, GI Campaign 2023, Borehole Position Review', ADCO report for Sure Partners, 2023.

<sup>3</sup> The toolbox talk was presented by Niall Brady via TEAMS on 16/06/2023.

<sup>4</sup> 'Appendix 2 – Borehole Records', report by Ground Investigations Ireland for Sure Partners, 2023. Job ref. 12715-04-23.

GI No.	UTM30N Easting Proposed	UTM 30N Northing Proposed	Approx ground level (mLAT)	UTM30N Easting Actual	UTM 30N Northing Actual
BH1	290576	5858050	-4.06	290576	5858050
BH2	290658	5858019	-5.29	290658	5858019
BH3	290739	5857987	-6.80	290739	5857987
BH4	290789	5857967	-7.69	290789	5857967
BH5	290893	5857927	-8.86	290893	5857927

Table 1: Nearshore GI 2023, Borehole Locations

### 3.0 Observations

Borehole BH1 recorded surface deposits of dense gravelly slightly clayey fine to coarse sand with low shell content and with gravel inclusions of limestone and quartzite. The surface deposits reached 4.3m deep (-8.65m CD) and overlay Phyllite rock, a metamorphic rock formed from slate. Rock continued to be observed to the base of the borehole at 25.3m deep (-29.65m CD).

Borehole BH2 recorded surface deposits of dense gravelly slightly clayey fine to coarse sand with low shell content with gravel inclusions of siltstone, limestone and quartzite. The surface deposits reached 0.9m deep (-6.93m CD) and overlay a similar deposit that included occasional clayey lenses and had limestone cobble inclusions as part of the gravels. The layer reached 2.1m deep (-8.13m CD) and overlaps a stiff yellowish brown coloured sandy gravelly clay with occasional cobble and gravel lenses. The layer reached a depth of 3.3m (-9.33m CD) and overlay more sandy gravelly clay to a depth of 5.2m (-11.23m CD), which in turn sat above a thin (20mm) gravel deposit. Phyllite was encountered at 5.4m (-11.43m CD), and rock continued to the base of the borehole at 25.3m (-31.33m CD).

Borehole BH3 recorded surface deposits of dense sand to a depth of 1.9m (-9.22m CD), overlying clay that becomes stiffer with depth and absorbs cobble inclusions along with gravel populated with limestone and quartzite. The surface deposits reached 4.7m deep (-12.02m CD) and overlay Phyllite rock, and rock continued to the base of the borehole at 25.3m (-32.62m CD).

Borehole BH4 recorded surface deposits of dense sand to a depth of 2.5m (-9.98m CD), overlying clay and then gravel populated with limestone and quartzite. The surface deposits reached 6.2m deep (-13.68m CD) and overlay Phyllite rock, and rock continued to the base of the borehole at 20.8m (-28.28m CD).

Borehole BH5 recorded surface deposits of dense sand to a depth of 1.2m (-10.37m CD), overlying gravel populated with limestone and quartzite, and gravelly clay was noted at 3.6m (-12.77m CD). The surface deposits reached 4.3m deep (-13.47m CD) and overlay Phyllite rock, and rock continued to the base of the borehole at 15.6m (-24.77m CD).

#### **4.0 Conclusion and recommendation**

The nearshore borehole data record a natural soil profile of sands, gravel and clay overlying rock. The depth of the surface deposits varies between 4.3m and 6.2m. The sand content is in keeping with marine surface deposits, while the gravel and clay indicate the presence of a boulder clay till that is in keeping with the soil profiles observed above the waterline along this stretch of retreating coastline. While onshore the bedrock exposures form low cliffs, it appears that the bedrock has a gentler inclination seaward but retains some undulation.

There was no record of organic material observed, such as peat deposits or the presence of land-shells, which could suggest the presence of submerged landscape that retains human activity horizons.

There was no record of more clearly indicative archaeological remains, such as worked timber, ceramic or other artefactual remains.

The need for further archaeological inputs on these data sets should not be required.

Recommendations are subject to the approval of the National Monuments Service at the Department of Housing, Local Government and Heritage.

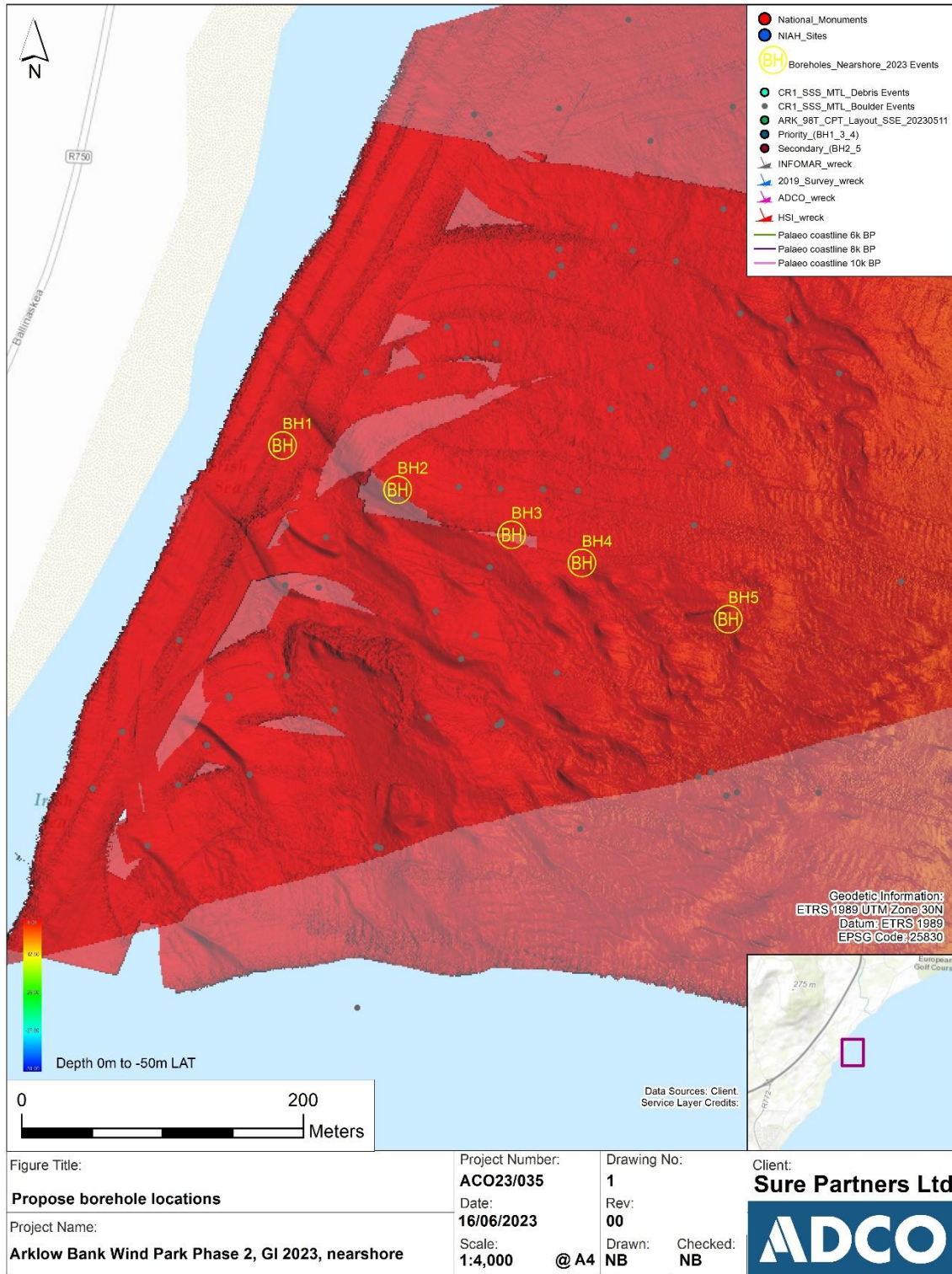


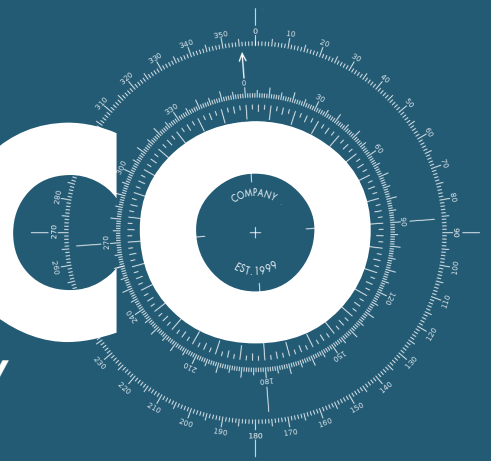
Figure 1: Location of boreholes BH1–BH5, overlaid on to marine geophysical survey 2019 showing bathymetry and recorded features



Plate 1: Photograph of the GII Jack-up Barge that facilitated the works.

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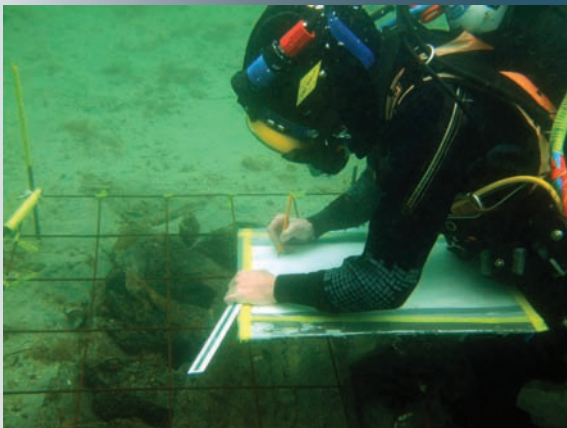


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