

OVERWATER PROJECT EXPERIENCE (2011-2022)

PROJECT	CLIENT	SCOPE OF WORK	DATE	VALUE
Hengistbury Head Long Groyne	BCP Council	<p>Multi-disciplinary project involving geophysical surveys, enabling works and reinstatement land and marine boreholes and marine CPTs around the groyne structure to inform ground conditions for new design of groyne structure. Lankelma acted as Principal Contractor pulling together all subcontractors and managing the project overall.</p> <p><i>Project highlights: Highly challenging environment, all works completed with a minimum of standby time. High profile public interest. Good relationship with client maintained throughout.</i></p>	2022	£900,000
Egypt Platform	RINA	<p>2 no. boreholes to max depth of 101m below seabed level, 30m continuous sonic sampling from mudline utilising single and dual wall core barrels followed by Geobor S wireline coring in 60m water. Downhole wireline CP testing in suitable formations up to depths of 30m below seabed. Equipment used: CRS XL Sonic-Rotary drilling rig. Vandenberg 50kN 3m tool. Vandenberg WCPT winch fitted with 250m umbilical.</p> <p><i>Project highlights: Project objectives well accomplished in a very remote location in the Gulf of Suez, challenging the upper limits of Geobor S wireline coring equipment without use of seabed frame. Difficult ground conditions encountered. Location together with minimal logistical support required meticulously organised mobilisation.</i></p>	2022	£475,000
Devonport	Boskalis	<p>5 no. boreholes to max depths of 5m below seabed level, continuous sampling from seabed level utilising Geobor S wireline coring only. Equipment used: Commachio 205. Project objective: High profile marine site investigation for the dredging purposes to replace existing military nuclear submarines with larger ones.</p> <p><i>Project highlights: All Locations completed on very strict time schedule within Devonport military facility. Positioning took place in very near proximity to nuclear submarine with the closest borehole location less than 5m away.</i></p>	2021	£200,000
Leith Outer Harbour	Dunelm/Forth Ports	<p>3 no. boreholes to max depth of 22m below seabed level, continuous sampling utilising sonic single wall core barrel through overburden with 1.5m SPT intervals and Geobor S wireline coring in competent rock. UXO survey carried out during drilling operations. 8 no. Vibrocores carried out to depths of 6m below seabed simultaneously to JUB drilling ops deployed from MTS Indus vessel. Equipment used: CRS XL Sonic-Rotary drilling rig and Vibrocorer.</p> <p><i>Project highlights: Locations completed in optimum time and to client specification with excellent core quality. Minimal weather standby. Management of positioning in shallow tidal water along with extremely tight location tolerance for JUB between existing jetty and rock armour.</i></p>	2021	£250,000

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Petten, NL	confidential	2 no. locations with separate borehole with continuous sampling and CPT to 60m for HDD . Jack-up and equipment mobilised from the UK and assembled/commissioned in Den Helder. Equipment used: CRS XL Sonic-Rotary drilling rig and top push CPT. Particular focus to CPT support casing to ensure depth of 60m achieved. Drill-outs performed where refusal encountered. All locations completed within 8 days. Laboratory testing and final report arranged and compiled by Lankelma.	2021	€750,000
Lowestoft FRMP	TetraTech	16 no. CPTs to 20m and 8 cable percussion BHs from 20-50m (marine and land). Jack-up configured as 12 x 12m to allow access to marina and port operations to continue as far as possible where jack-up situated in main port entrance channel. Full Displacement Pressuremeters also deployed using 20 tonne rams in some CPT and BH locations. Cantilever frame installed to enable access as close to quayside as possible. All locations cleared for UXO via mag cone or dip meter. <i>Project highlights: Operations synchronised between land and marine, with most efficient use of resources. Locations completed in optimum time and to client specification. Full 20 tonne thrust achieved through moonpool and most CPTs achieved to depth in difficult ground conditions. Finalist for Ground Engineering Awards.</i>	2021	£500,000
Fehmarnbelt	Gardline	15 boreholes up to 40m combining downhole CPT and rotary drilling within each borehole. Project objective – main site investigation for the route of the planned tunnel (nearshore sections in both Germany and Denmark) <i>Project highlights: Innovative approach in terms of delivering maximum flexibility for data acquisition, including installation of the 150kn Wison APB CPT equipment and sonic drill rig, whilst allowing for all operations on board to be safely conducted.</i>	2019-20	£2,100,000
Gridlink	MMT	2 boreholes to 30m at each landfall location for HDD drilling. Dunkirk, France and Kingsnorth, UK. Cable percussion followed by rotary drilling. <i>Project highlights: Management of positioning on mud flats with very shallow tidal water.</i>	2019	£400,000
Lake Lothing, Third Crossing	BAM Nuttall	Marine and land contract with land boreholes, CPTs and trial pitting together with marine boreholes and pre- and post-boring sediment sampling. Lankelma carried out drilling from the Sandpiper using cable percussion techniques to 60m. <i>Project highlights: Overcame very challenging ground conditions whilst keeping in the confines of the MMO licence (less than 4m³ to be extracted from the ground). Good management of major subcontractors. Sensitive project environmentally and locally with a lot of public interest.</i>	2019	£430,000

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Greenlink	MMT	2 boreholes to 10m and 25m at each landfall location for HDD drilling. Wales (Pembroke) and Ireland (Co. Wexford). Cable percussion followed by rotary drilling. <i>Project highlights: Overcame extremely challenging conditions for towing and positioning.</i>	2018-19	£775,000
IFA2	Next Geosolutions	4 boreholes to 15m at very nearshore locations for a cable route close to a public beach in Northern France. Works had to be completed within a very particular timescale. <i>Project highlights: Rapid mobilisation, all works completed within schedule despite tidal restrictions for moving, jacking and crew changes.</i>	2018	£250,000
Celtic Interconnector	Next Geosolutions	3 boreholes to 25m at very nearshore locations for an HDD cable route design close to a public beach in Southern Ireland. <i>Project highlights: Rapid mobilisation, passed inspection by the Irish MSO with no re-visit required, all works completed within schedule despite tidal restrictions for moving, jacking and crew changes.</i>	2018	£400,000
Navigator Terminals	CMP Thames	Short possession borehole (28m achieved in 3 shifts) at Navigator Terminals to investigate the sediment depth and 20m below the chalk level for the replacement of a damaged dolphin. All resources and personnel provided together with logging and laboratory testing.	2018	£50,000
Boston Barrier	BAM Nuttall	Marine Site investigation working in the tidal river comprising standard, seismic and full displacement pressuremeter CPTs with drill-outs for pile and foundation design for the flood barrier and associated pile design of adjacent quayside. Sandpiper jack-up in smaller 15m x 12m configuration, rotary drilling rig and top push CPT rams - 2 options for CPT deployment through moonpool and via cantilever (to refusal only) running day and night shifts. Complemented with land-based CPTs undertaken using a wheeled 20-tonne rig.	2017	£200,000
GulfMex Pipeline	TransCanada	Marine ground investigation comprising boreholes to 50m with adjacent top push CPT as well as independent boreholes and CPT to 10m at the 2 nearshore crossing locations. Operating platform: Local self-propelled 3-leg jack-up platform. Laboratory operation onshore due to limited space on board. <i>Project highlights: Rapid mobilisation required; logistics and crew required good management to complete work in less than ideal seasonal weather conditions. Flexibility with frequently reassessed client requirements.</i> <i>Sector: Oil and Gas</i>	2016	\$3,200,000

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Kamsar Port, Guinea	Geocontrôle (various clients)	Provision of jack-up platform and operational personnel for various geotechnical works.	2015-2016	£600,000
Kamsar Port Development, Guinea	Guinea Alumina Corporation	<p>Marine survey for dredging and piling works in the channel approach, turning basin and location of new jetty. Boreholes up to 50m and CPTs with drill-outs on refusal, vibrocoring, bathymetric and geophysical survey, metocean survey including ADCP and tidal gauge installation and monitoring, laboratory testing, data correlation and final reporting. Operating platforms : 18m x 12m jack up, local survey craft and multicat.</p> <p><i>Project highlights: Successful completion overcoming major logistical and health challenges; maintenance of good client communications and relationship; management of and liaison with a number of subcontractors.</i></p> <p><i>Sector: Mining Infrastructure</i></p>	2014-2015	\$3,500,000
Puente Nigale, Lake Maracaibo, Venezuela	Geohidra	<p>Marine ground investigation in 5-20m water depths providing boreholes to 70m and CPT to 55m below seabed. Investigation techniques include rotary drilling, triple tube core sampling, top push and downhole (Wison APB) cone penetration tests. Operating vessel : 18m x 12m jack up platform.</p> <p><i>Project highlights: Enhanced production rates using Geobor S rotary wireline drilling integrated with Wison APB downhole CPT; dedicated resource management mitigating in country supply chain risk.</i></p> <p><i>Sector: Public Infrastructure</i></p>	2013-2014	\$5,000,000
Libwa Field, Leg Penetration Assessments, Democratic Republic of Congo	Perenco	<p>Multi-stage project investigating existing and proposed Oil and Gas exploration platform locations. Scope comprised boreholes and cone penetration testing to 80m, working off Hercules offshore liftboat (Blue Shark), soil sampling and confirmatory laboratory testing. Leg Penetration Assessment was provided to enable confirmation of suitable platform positioning.</p> <p><i>Project highlights: Rapid mobilisation in response to urgent operational conditions in West Africa; manual transfer and set up of drilling and CPT equipment</i></p> <p><i>Sector: Oil and Gas</i></p>	2013	£2,800,000

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Beckton Outfall, River Thames, London	MVB-JV	<p>Marine ground investigation off spud-legged barge comprising cone penetration techniques for the soil classification and UXO clearance of 500 no. positions to enable sheet piled outfall culvert construction.</p> <p><i>Project highlights: Operating in advance of piling construction works and providing clearance certification and advice on additional ground investigation as the work proceeded.</i></p> <p><i>Sector: Water</i></p>	2013	£250,000
Dissoni Field, Leg Penetration Assessments, Cameroon	Perenco	<p>Ground investigation to verify existing Oil and Gas exploration platform locations. Scope comprised boreholes and cone penetration testing to 80m, working from jacketed well heads and an existing Hercules exploration platform. Primary investigation technique was CPT, supplemented by core samples of sensitive marine mud at 60m and confirmatory laboratory testing. Leg Penetration Assessment was provided to enable confirmation of suitable platform positioning.</p> <p><i>Project highlights: Rapid mobilisation in response to urgent operational conditions and manual transfer and set up of drilling and CPT equipment onboard operational exploration platform.</i></p> <p><i>Sector: Oil and Gas</i></p>	2012	£700,000
Cammell Laird Shipyard, Birkenhead, Wirral	Peel Ports	<p>Marine ground investigation in former shipyard basin comprising cable percussion boreholes to 30m and cone penetration testing to 25m. Work was undertaken off spud-legged barge secured by three-point anchoring system.</p> <p><i>Project highlights: Novel approach to CPT resulting in the use of floating barge and casing system to compensate for heave.</i></p> <p><i>Sector: Ports and Harbours</i></p>	2012	£130,000
Corrib Field Foreshore, Eire	Shell	<p>Marine ground investigation comprising rotary drilling and top push cone penetration testing for pipeline route landfall locations, associated reporting.</p> <p><i>Project highlights: Operating in an environmentally sensitive location with significant local protest groups. Managed activities to ensure minimal disruption to locality.</i></p> <p><i>Sector: Oil and Gas</i></p>	2011	€950,000

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Hong Kong Zuhai Macau Bridge	CCCC-FHDI Engineering	<p>Provision of specialist seabed cone penetration services using a Roson CPT system deployed from local Chinese vessels. Due to the success of the application, the programme of work was extended to cover a larger geographic area previously assigned to drilling operations.</p> <p><i>Project highlights: Achieving 30m deep seabed CPT in Completely Decomposed Granite [CDG] to meet a specification that had previously proven unachievable. Provision of quality audit and training activities to mainland Chinese contractor to a standard that provided the quality assurance necessary for approval by the Hong Kong Government engineering representatives.</i></p> <p><i>Sector: Public Infrastructure</i></p>	2011	£330,000