



# LATE-LIFE AND END-OF-LIFE MOORING TRACK RECORD

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Mooring integrity services that prolong the life of floating assets  
and deliver safe end-of-life solutions

MOORINGS AND ANCHORS

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Acteon offers a worldwide integrated mooring integrity service, including chain inspection, mooring line repair, mooring system data management and analysis, and procedure and plan development. This integrated service covers all types of offshore assets and is available for all chain grades and sizes, under all classifications. The reliability of mooring systems stay uncompromised and enable mooring chain certification and re-certification for our customers.

Our end-of-life experience has included unhooking and towing some of the largest energy production assets and recovering mooring equipment and other assets including chains, umbilicals and risers.

We are in a strong position to support the floating wind sector, drawing on decades of experience moving and mooring floating structures, insight from engineering studies, and the world's largest mooring inventory.

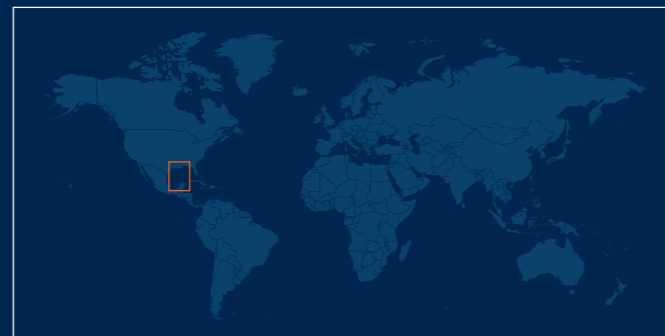
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**DATA MANAGEMENT**  
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 Moorings and anchors

PRODUCT AND SERVICE  
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# GULF OF MEXICO

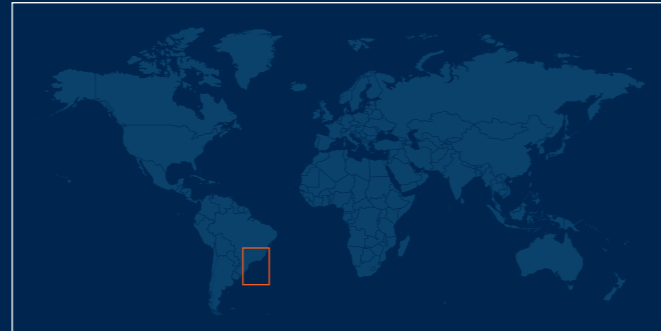


GULF OF MEXICO					
LOCATION NUMBER	YEAR	CLIENT	PROJECT NAME	WATER DEPTH, FT	WORK SUMMARY
1	2022	ExxonMobil	Hoover/ Diana	4,808	<ul style="list-style-type: none"> <li>Project management and engineering</li> <li>Procurement of equipment</li> <li>Offshore personnel</li> <li>Replace four mooring lines</li> <li>Top chain replacement of all lines</li> <li>Fabrication</li> </ul>
2	2022	Chevron	Blind Faith	6,500	<ul style="list-style-type: none"> <li>Removal of 5-in. x 5,092-ft chain from Blind Faith Platform to reduce overall platform payload for Ballymore Field tieback</li> <li>Project management and engineering</li> <li>Procurement of equipment</li> <li>Offshore personnel</li> <li>Fabrication</li> </ul>
3	2021	Occidental Petroleum (Oxy)	Dawson Deep	3,150	<ul style="list-style-type: none"> <li>Recovery of a 2.9 in. x 10,450 ft umbilical from the sea floor</li> <li>Project management and engineering</li> <li>Procurement, equipment and offshore personnel</li> </ul>
4	2017	Anadarko Petroleum Corp.	Independence HUB	7,900	Decommissioning of five umbilicals: <ul style="list-style-type: none"> <li>Project management, engineering and procedures</li> <li>Offshore operations personnel and equipment rental</li> </ul>
5	2015	Anadarko Petroleum Corp.	Boomvang Spar	3,472	Disconnect and lay down three risers and one umbilical: <ul style="list-style-type: none"> <li>Engineering and procedures</li> <li>Offshore operations services</li> </ul>
6	2014	Anadarko Petroleum Corp.	Red Hawk Spar	5,200	Decommissioning services for the spar: <ul style="list-style-type: none"> <li>Project management</li> <li>Development of engineering procedures for decommissioning, towing, ballasting/deballasting and mooring disconnect/recovery</li> <li>Preparing vessel for towing, including ballasting/deballasting of the hull for topsides removal</li> <li>Procurement of rigging</li> <li>Cutting and removing the riser pull-in tubes and decommissioning</li> <li>Towing spar to reefing sight and reefing the structure</li> </ul>
7	2014	Anadarko Petroleum Corp.	Neptune Spar	4,521	Decommissioning services (disconnect and lay down all risers): <ul style="list-style-type: none"> <li>Project management</li> <li>Engineering</li> <li>Procurement</li> <li>Offshore execution</li> </ul>
8	2014	Anadarko Petroleum Corp.	Innovator	3,000	Decommissioning services for the FPU (disconnect all risers/ umbilicals, disconnect mooring lines, offshore/inshore tow): <ul style="list-style-type: none"> <li>Project management</li> <li>Engineering</li> <li>Procurement</li> <li>Offshore execution</li> </ul>
9	2011	Shell Offshore Inc.	Auger TLP (with Lateral Mooring System – LMS)	2,861	Removal of the existing eight platform wires and the installation of new platform wires, including: <ul style="list-style-type: none"> <li>Development of the project execution plan</li> <li>Design and fabrication of installation aids</li> <li>Provision of offshore personnel</li> </ul>
10	2011	Anadarko Petroleum Corp.	Innovator	3,000	Mooring maintenance and upgrade (change-out of rig wires, upgrade of five mooring legs with new anchors and components for possible life extension and inspection): <ul style="list-style-type: none"> <li>Project management</li> <li>Engineering</li> <li>Mooring design</li> <li>Regulatory interface</li> <li>Procurement</li> <li>Offshore execution</li> </ul>

# BRAZIL

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BRAZIL					
LOCATION NUMBER	YEAR	CLIENT	PROJECT NAME	WATER DEPTH, FT	WORK SUMMARY
11	2022	Trident Energy	P65	N/A	Mooring maintenance and upgrade including the change out of existing upper wire and reset of permanent anchor: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering</li> <li>• Procurement</li> <li>• Offshore execution</li> </ul>
12	2021	Karoon	FPSO Cidade de Itajaí	N/A	Mooring line remedial work: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering</li> <li>• Procurement</li> <li>• Offshore execution</li> </ul>
13	2021	Trident Energy	P08	N/A	Top chain replacement: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering</li> <li>• Procurement</li> <li>• Offshore execution</li> </ul>
14	2019	MODEC/Ardent	MV14	N/A	Mooring master and positioning system for MV14 disconnection and tow out: <ul style="list-style-type: none"> <li>• Positioning equipment and tow master provision for MV14 salvage plan</li> <li>• Tow out</li> </ul>
15	2018	OceanPact/Petrobras	Carapeba Mature Field	N/A	Subsea scrap recovery campaign
16	2018	Shell	FPSO Fluminense	2,297	Mooring line remedial work: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering</li> <li>• Procurement</li> <li>• Marine base services</li> <li>• Offshore execution</li> </ul>
17	2017 2019 2022	MODEC	Various FPSOs	N/A	FPSO fleet mooring system inspection: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Cleaning and measurement, tooling provision</li> <li>• Offshore executions</li> <li>• Reporting</li> </ul>
18	2015	Dommo Energia	FPSO OSX-1 STP buoy	334	Disconnection of the STP buoy (including the installation of the isolated navigation warning buoy) and mating cone seal plug installation to prepare the FPSO OSX-1 for sailing: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering</li> <li>• Procurement</li> <li>• Offshore execution</li> </ul>

# NORTH SEA



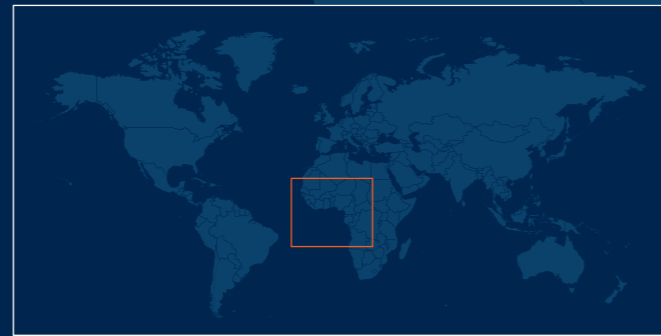
NORTH SEA					
LOCATION NUMBER	YEAR	CLIENT	PROJECT NAME	WATER DEPTH, FT	WORK SUMMARY
19	2022	Repsol Sinopec Resources UK Ltd	Bleo Holm FPSO	N/A	Chain inspection and fatigue load testing of FPSO chain: <ul style="list-style-type: none"> <li>• Loading analysis</li> <li>• Cyclic fatigue load testing</li> <li>• Integrity management plan</li> </ul>
20	2022	Carnival	Queen Victoria II	N/A	Full chain inspection and recertification of ship's anchor chain: <ul style="list-style-type: none"> <li>• Inspected to ABS standards</li> <li>• Inspected under A0SS 413 accreditation</li> <li>• Inspection of all chain connecting links</li> <li>• Chain inspection consultancy</li> </ul>
21	2021	Ponticelli UK Ltd	Ailsa FSO	N/A	Ailsa hawser line replacement: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering and installation analysis</li> <li>• Procurement</li> <li>• Disconnection and recovery of old and new hawser</li> <li>• Heading control operations</li> <li>• Procedure development and offshore personnel</li> </ul>

LOCATION NUMBER	YEAR	CLIENT	PROJECT NAME	WATER DEPTH, FT	WORK SUMMARY
22	2021	Neo Energy Production UK Ltd	Global Producer III FPSO	N/A	Top chain replacement: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering analysis</li> <li>• Procedure writing</li> <li>• Marine consultancy</li> <li>• Installation analysis</li> <li>• Offshore chain inspection (recovered lines)</li> <li>• Heading control</li> <li>• Offshore project support personnel</li> <li>• Onshore chain inspection support</li> </ul>
23	2021	Ithaca Oil and Gas Ltd	Captain FPSO	N/A	Top chain replacement: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering analysis</li> <li>• Procedure writing</li> <li>• Marine consultancy</li> <li>• Installation analysis</li> <li>• Offshore chain inspection (recovered lines)</li> <li>• Heading control</li> <li>• Offshore project support personnel</li> <li>• Chain procurement</li> <li>• Onshore chain inspection support</li> <li>• Rigging procurement</li> </ul>
24	2022	Repsol Sinopec Resources UK Ltd	Bleo Holm FPSO	N/A	Chain changeout: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering analysis</li> <li>• Procedure writing</li> <li>• Marine consultancy</li> <li>• Installation analysis</li> <li>• Offshore chain inspection (recovered lines)</li> <li>• Heading control</li> <li>• Offshore project support personnel</li> </ul>
25	2020	EnQuest Heather Ltd	Northern Producer	N/A	Mooring integrity review
26	2019	EnQuest Heather Ltd	Northern Producer	N/A	Top chain replacement: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering analysis</li> <li>• Procedure writing</li> <li>• Offshore analysis</li> </ul>
27	2019	Repsol Sinopec Resources UK Ltd	Bleo Holm FPSO	N/A	Chain changeout: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering analysis</li> <li>• Procedure writing</li> <li>• Marine consultancy</li> <li>• Installation analysis</li> <li>• Offshore chain inspection (recovered lines)</li> <li>• Heading control</li> <li>• Offshore project support</li> </ul>
28	2019	Chevron UK Ltd	Alba FSU	459	Replacement of 12 mooring lines: <ul style="list-style-type: none"> <li>• Engineering and offshore procedures</li> <li>• Equipment and personnel</li> <li>• Survey and positioning services</li> <li>• Full project management and vessel charter</li> </ul>
29	2010	Premier Oil E&P UK Ltd	Balmoral FPV	492	<ul style="list-style-type: none"> <li>• Development of procedures</li> <li>• Project management of complete chain replacement</li> <li>• Replacement of connectors with long-term mooring connectors</li> <li>• Chain inspection services</li> <li>• Onshore and offshore personnel</li> </ul>

# WEST AFRICA



Deepwater



WEST AFRICA					
LOCATION NUMBER	YEAR	CLIENT	PROJECT NAME	WATER DEPTH, FT	WORK SUMMARY
30	2021	Chevron Nigeria Ltd	Escravos FSO	138	Replacement of six mooring lines: <ul style="list-style-type: none"> <li>• Project management and engineering</li> <li>• Installation engineering</li> <li>• Equipment and offshore personnel</li> <li>• Offshore preparation and execution</li> </ul>
31	2020	MODEC Management Services Pte Ltd	Baobab	N/A	Top chain replacement: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering analysis</li> <li>• Procedure writing</li> <li>• Marine consultancy</li> <li>• Installation analysis</li> <li>• Offshore chain inspection (recovered lines)</li> <li>• Heading control</li> <li>• Offshore project support personnel</li> </ul>
32	2019	MODEC Management Services Pte Ltd	Baobab	N/A	Mooring line repair: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering analysis</li> <li>• Procedure writing</li> <li>• Marine consultancy</li> <li>• Installation analysis</li> <li>• Offshore chain inspection (recovered lines)</li> <li>• Heading control</li> <li>• Offshore project support personnel</li> </ul>

LOCATION NUMBER	YEAR	CLIENT	PROJECT NAME	WATER DEPTH, FT	WORK SUMMARY
33	2019	Bumi Armada Nigeria Ltd	Armada Perdana FPSO	1,197	Decommissioning of four risers and one umbilical: <ul style="list-style-type: none"> <li>• Project management, engineering and procedures</li> <li>• Equipment and offshore operations personnel</li> <li>• Procurement of pull-in heads, installation aids and rigging</li> </ul>
34	2019	Chevron Nigeria Ltd	Escravos FSO	138	Replacement of a broken mooring line: <ul style="list-style-type: none"> <li>• Recovery, inspection and repair procedures</li> <li>• Chain cleaning and inspection equipment</li> <li>• Survey equipment and personnel</li> <li>• Equipment and offshore personnel</li> </ul>
35	2018–2019	Maersk Supply Service (for MEGI)	Serpentina FPSO	1,558	Removal of temporary mooring system and installation of new permanent system: <ul style="list-style-type: none"> <li>• Design, fabrication and installation of nine SEPLAs and their ground chains</li> <li>• Disconnection and laydown of nine temporary mooring lines and installation and hookup of the new permanent mooring lines</li> <li>• Recovery of temporary anchors from the seabed</li> <li>• Equipment and offshore personnel</li> </ul>
36	2018	Esso Exploration and Production Nigeria Ltd	Erha FPSO	3,832	Replacement of nine mooring lines: <ul style="list-style-type: none"> <li>• Engineering and project management</li> <li>• Equipment and offshore personnel</li> </ul>
37	2018	Tullow Oil plc (Ghana)	Kwame Nkrumah FPSO (Jubilee)	3,609	Installation of anchors for permanent spread moorings: <ul style="list-style-type: none"> <li>• Project management and engineering</li> <li>• Offshore operations personnel</li> <li>• Fabricated and installed eight SEPLAs</li> </ul>
38	2016–2017	Tullow Oil plc (Ghana)	Kwame Nkrumah FPSO (Jubilee)	3,609	Installation of six interim turret remediation moorings: <ul style="list-style-type: none"> <li>• Project management and engineering</li> <li>• Offshore operations personnel</li> <li>• Installed six stern mooring lines on the FPSO</li> </ul>
39	2015–2016	Cabinda Gulf Oil Company Ltd (Chevron) (Angola)	Sanha FPSO	197	Replacement of nine mooring lines: <ul style="list-style-type: none"> <li>• Project management, engineering and procedures</li> <li>• Procurement and offshore operations personnel</li> </ul>
40	2015	MODEC International, Inc. (Cote D'Ivoire)	FPSO Baobab Ivorian MV10	3,182	Maintenance of one mooring line: <ul style="list-style-type: none"> <li>• Engineering and procedures</li> <li>• Offshore operations services</li> </ul>
41	2015	Bumi Armada Nigeria Ltd	Armada Perkasa	50	<ul style="list-style-type: none"> <li>• Top chain replacement of ten FPSO mooring lines:</li> <li>• Repositioning of two mooring lines, with no production shutdown required</li> </ul>
42	2015	Boskalis/MEGI (Equatorial Guinea)	Zafiro Producer	591	Inspect and replace old mooring chains and wire ropes for 9 of 12 mooring lines: <ul style="list-style-type: none"> <li>• Provided engineering and offshore operations services</li> <li>• Replaced two drag anchors</li> </ul>
43	2014	Cabinda Gulf Oil Company Ltd (Chevron) (Angola)	Kuito FPSO	1,224	FPSO decommissioning: <ul style="list-style-type: none"> <li>• Project management</li> <li>• Engineering services for developing procedures to disconnect and lay down twenty risers and umbilicals, and release mooring lines</li> <li>• Development of procedures for FPSO riser, mooring and CALM buoy disconnection</li> <li>• Disconnection and abandonment of the riser and umbilical systems</li> <li>• Disconnection and abandonment of the mooring lines</li> <li>• Disconnection, recovery and abandonment of the CALM buoy</li> </ul>
44	2014	MODEC International, Inc. (Cote D'Ivoire)	FPSO Baobab Ivorian MV10	3,182	<ul style="list-style-type: none"> <li>• Development of procedures for replacing mooring lines</li> <li>• Provision of offshore crew</li> </ul>
45	2014	Murphy West Africa, Ltd. (Republic of Congo)	Azurite FDPSO	4,600	Decommissioning services: <ul style="list-style-type: none"> <li>• Provided project management and engineering services</li> <li>• Provided consulting services for vessel selection, and mooring and riser disconnect operations</li> <li>• Developed procedures including for preliminary and alternative mooring disconnect</li> <li>• Provided rental equipment for riser disconnect and abandonment operations</li> <li>• Provided offshore crew</li> </ul>

# ASIA PACIFIC

Deepwater



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ASIA PACIFIC					
LOCATION NUMBER	YEAR	CLIENT	PROJECT NAME	WATER DEPTH, FT	WORK SUMMARY
46	2021	Chevron Thailand Exploration and Production, Ltd (Gulf of Thailand)	Erawan field	256	Full transportation and installation scope: <ul style="list-style-type: none"> <li>• Project management, engineering, procurement and offshore execution for the decommissioning of Pattani FSO and SPM buoys 1 and 2</li> <li>• Disconnection and laydown of the floaters and towing operations</li> <li>• Removal and recovery of subsea infrastructure comprising PLEM, MWA, pipelines, risers and mooring systems</li> <li>• Management and charter of seven vessels including a DSV and high-spec tugs</li> </ul>
47	2015	Atwood Oceanics, Inc.	Atwood Eagle	35	<ul style="list-style-type: none"> <li>• Project management, engineering, procurement and installation of chains, and wire replacement scope for a semi-submersible rig</li> <li>• Changeout of 32 km of wire and 8 km of chain</li> </ul>
48	2014	Offshore Oil Engineering Co. Ltd (COOEC) (South China Sea)	Panyu FPSO	345	<ul style="list-style-type: none"> <li>• Project management and engineering</li> <li>• Installation of the mooring system using the existing mooring pattern and mooring changeout conducted ensuring that the existing FPSO remained in production throughout the installation</li> </ul>
49	2012	Offshore Oil Engineering Co. Ltd (COOEC) (South China Sea)	LuFeng NHSK FSOU	433	Upgrades, relocation and hookup services: <ul style="list-style-type: none"> <li>• Project management and engineering</li> <li>• Provision of anchors, ground chain and excursion chain during prelay stage</li> <li>• Provision of buoy hookup, dip-zone chain and riser JSS wire during hookup stage</li> <li>• Installation of 8-in. static flow line and 8-in. dynamic riser between FL13-2 platform and the NHSK buoy</li> <li>• Provision of guide frame and gravity base for the midwater arch</li> </ul>
50	2011	Murphy Sabah Oil Co., Ltd (Malaysia)	Kikeh spar	4,362	<ul style="list-style-type: none"> <li>• Hawser changeout</li> <li>• TAD hookup</li> <li>• Provided offshore personnel</li> </ul>



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**CUTTING AND DECOMMISSIONING**



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