



MWCC Fact Sheet

Containment System

The MWCC Containment System includes a variety of equipment specifically built to ensure comprehensive coverage of member wells, allowing the company to effectively respond to an array of well incidents across a wide range of wellbore pressures, fluid temperatures, water depths, and other technical variables.

Throughout the system design process, MWCC worked with regulators from the Bureau of Safety and Environmental Enforcement (BSEE) and the U.S. Coast Guard to ensure all operational requirements and expectations were met. The capabilities of the chief components of the Containment System were demonstrated upon delivery; the entire system is maintained and routinely tested in a warm-stack, or operationally functional state.

The Containment System can operate in water depths from 500 to 10,000 feet, handle temperatures up to 400 degrees, and effectively seal off a well with up to 20,000 pounds per square inch (psi) of pressure.

Subsea Dispersant

MWCC' Subsea Dispersant Injection System (SDIS) uses a marine vessel to pump dispersant through coil tubing to an applicator positioned at the release point.

Total Inventory in Storage	200,000 Gallons
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Storage Configuration	35 ISO Tanks
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Dispersant Type	COREXIT 9500A
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To support effective use of dispersant, MWCC maintains and operates a Water Column Monitoring System which allows real-time sample collection and analysis of sea water at various depths from the well-site up to the surface. This sampling capability allows MWCC to assess the efficacy of dispersant at approved flow rates.

Dispersant application is authorized by the Environmental Protection Agency (EPA). The EPA determines if and how subsea dispersant should be used in an incident. If dispersant is approved for use, the amount applied is set by the EPA.

Well Capping

MWCC's main goal is to shut-off the flow of fluids from a compromised well using a primary containment device called a capping stack. The Containment System includes a portfolio of five capping stacks that have been purpose-designed and built to ensure MWCC can respond to a diverse array of scenarios effectively.

	20K	400F	SCA	Dual Ram	Single Ram
Delivered	2018	2016	2015	2013	2011
Pressure	20,000 PSI	15,000 PSI	15,000 PSI	10,000 PSI	15,000 PSI
Temperature	350° F	400° F	250° F	300° F	350° F
Mechanical Shut-in	Valve	Valve	Ram	Ram	Ram
Key Feature	First High-Pressure Stack in Industry	First High-Temperature Stack in Industry	Smart Stack; Can be Functioned via Umbilical from Surface	Compact Design for TLP & SPAR Applications	First Subsea Capping Stack Available to Industry

MWCC’s capping stacks are designed to attach to a variety of locations on a compromised well, these include at the top of the blow out preventer (BOP), including the marine riser connection point, the existing BOP, the wellhead, and the well casing. To achieve flexibility in capping stack connection, MWCC has a variety of different sized connectors to adapt to the unique needs of an incident. Further, MWCC has the first in industry wellhead straightening tool, designed to pull a damaged wellhead into a more vertical position for easier connection with a capping stack.

Interim Collection

Should a situation arise where a well cannot be immediately shut-off with a capping stack, MWCC has collection equipment to minimize the release of well fluids into the environment. The system is comprised of top hats and riser insertion tube tools (RITT). A top hat works like a funnel, sitting over top of a leaking well, collecting oil and directing it to a support rig on the surface for disposal. A RITT looks a lot like a straw that can be inserted inside of a broken riser pipe to again collect and direct oil to a support rig for disposal.

Delivered 2011

Capture Capability 15,000 BPD

Top Hats

Total Portfolio 5

Chemical Injection Capability Yes

Potential Installation Interface 18 ¾ Inch H4/HC Connector with Drill Pipe
Obstacles Protruding Out

RITT

Total Portfolio	3
Chemical Injection Capability	Yes
Potential Installation Interface	21 Inch Outer Diameter Drilling Riser in a Vertical or Horizontal Position

Extended Flowback

In a situation where the well needs to be flowed for an extended period of time, up to six (6) months, while relief wells are being drilled to permanently kill the well, MWCC creates a closed loop system to contain well fluids using extended flowback equipment. The extended flowback system is tailored to site specific requirements including water depth, seafloor landscape, well flow rates, ocean currents and debris field. In this scenario, MWCC would still install the capping stack but rather than shutting off the flow, a series of flexible flowlines are linked to the capping stack routing well fluids up to a Modular Capture Vessel (MCV) at the surface.

MWCC has two dedicated tanker vessels called Modular Capture Vessels (MCV). MCVs are standard oil tankers customized to process and capture well fluids. The MCVs process the captured hydrocarbons by separating oil, water and sand and flaring natural gas.

Delivered	2015
Total Number of Vessels	2
Topsides Processing Capability	50,000 BPD Per Vessel





Gas Handling Capability

100 MMSCFD Per Vessel

Liquid Storage Capacity

500,000 Barrels Per Vessel

Dynamic Positioning Capability

DP2 Enabled to Maintain Station

Utilizes Satellite Based Global Positioning System

Vessel Uses 360° Rotation Around Riser Turret Module to Stay on Station

Subsea Flowback Architecture

6 Miles of 7 Inch Flexible Flowlines

Flexible Configurations Adapt to Water Depths of 500 – 10,000 Feet

4 Miles of Riser Pipe

Key Feature

Positioned up to a Mile Away from the Incident Site to Increase Safety and Decrease Response Site Traffic





**MARINE WELL
CONTAINMENT**
C O M P A N Y





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