

Pipeline Submerged Fluid Recovery System™



SPECIALIZING IN SUBMERGED OILSPILL RESPONSE SOLUTIONS

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PIPELINE SUBMERGED FLUID RECOVERY SYSTEM - Patent pending solution that addresses abatement and containment of submerged pipeline leaks

PIPELINE SFRS™ OBJECTIVES

- Enable service providers and stakeholders to plan and schedule major repairs of leaking submerged pipelines
- Reduce costs maintenance and resource utilization in response to pipeline leaks
- Mitigate environmental impact from oil/water emulsion dispersing in water and oil reaching and dispersing on the surface
- Recover revenues from oil collected
- Reduce waterway obstruction from use of booms

Ohmsett Test October 27, 2008

The National Oil Spill Response Test Tank Facility, USA

Tests

Deployment:

System Mechanics:

Oil Collection Rate:

Efficiency:

Water content of oil:

Clean Extraction:

Test Results

Multiple deployments

Surface controlled actuation & seals operation at 200 psi oil injection pressure

Rate – 0.5gpm - 720 g/day

Oil Loss = < 5% - (91% Efficiency)

Water content of oil collected < 3%

No residual oil spilled into water from extraction

OPERATION

- Deployed from a standard work vessel by boom
- Deployment assisted by diver, ROV, or surface controlled with deployment frame
- Creates a mechanical seal 360 degrees about pipe isolating internal leak environment from external open water
- Sealed area limits water that reaches emulsion saturation resulting in extremely low water content in oil collected
- Utilizes Archimedes Principle of buoyancy where oil displaces water in system and hose rising to surface storage unit
- Communicates to service provider when storage unit full

SPECIFICATIONS:

- **Envelope Construction:** Powder coated steel or stainless
- **Actuation Options:** Hydraulic or electric
- **Seals:** soft seal – Oil resistant, does not damage pipeline coating
- **Surface Contact:** Non-metallic to prevent electrolysis
- **Piping:** 2" Oil resistant ROV Urethane (low weight)
- **Connectors:** SS coupling and quick connects
- **Leak Containment:** 360 degree about circumference of pipe
- **Pipeline ID's:** 8in to +3ft (20cm to 1m+)
- **Lengths:** 3ft to 9ft in length (1m to 3m)
- **Pipeline Operational Pressures:** =>750psi
- **Operational Depths:** >1000ft (>300m)
- **Uptake:** 720-1200 gallons / day (passive collection)

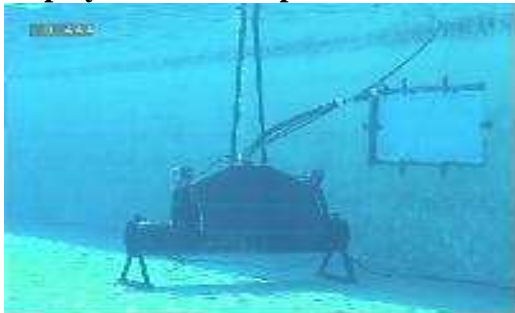
Surface Deployment



Subsurface View



Deployment Onto Pipe



Deployed & Compressed

