

# Subsea Pipeline Removal from a DP2 DSV Bay Marchand Gulf of Mexico

Prepared by: Ted Roche

Date: 10/24/10



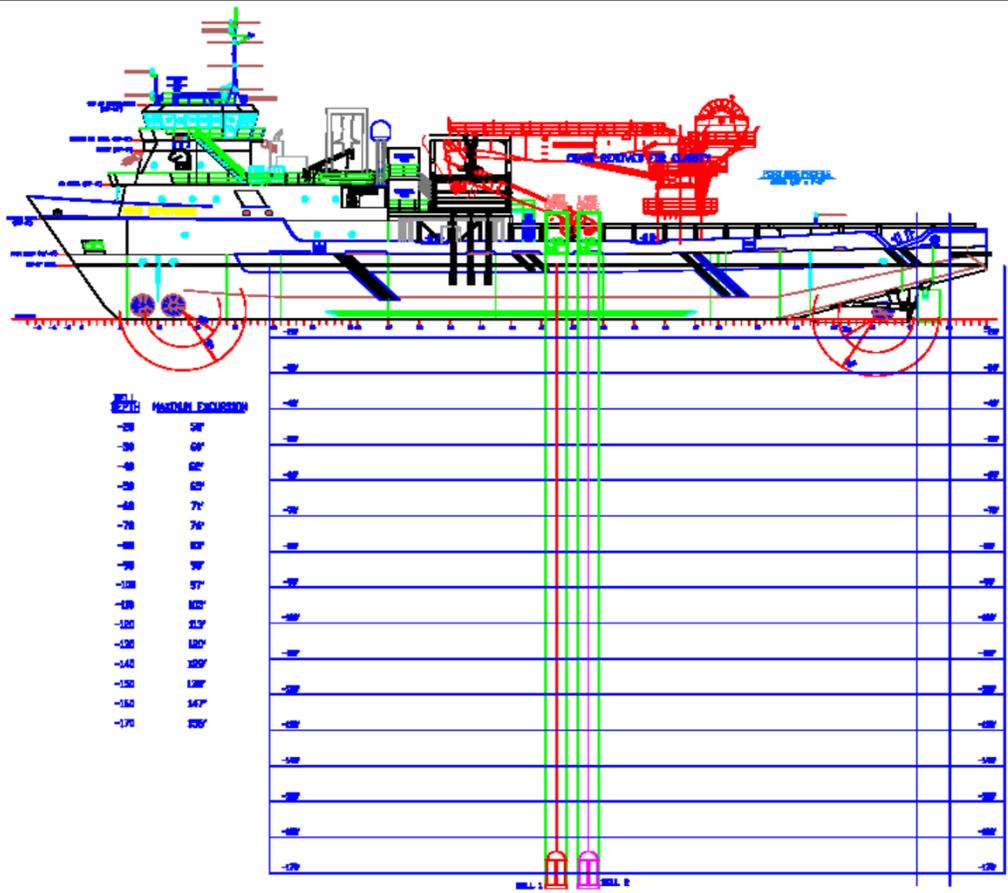
# DP2 Drive Off- North Sea Incident Share

- Saturation Diver Rescue
- Remarkable Outcome

A case study in the removal and abandonment of subsea pipelines in the Gulf of Mexico working from a Dynamically Positioned (DP2) Support Vessel. The presentation will include DP 2 methodology compared to completing the work from a Lift Boat, the development of specialized tooling for pipeline cutting and the development of specialized procedures to mitigate hazards to personnel and the environment during the entire removal operation.



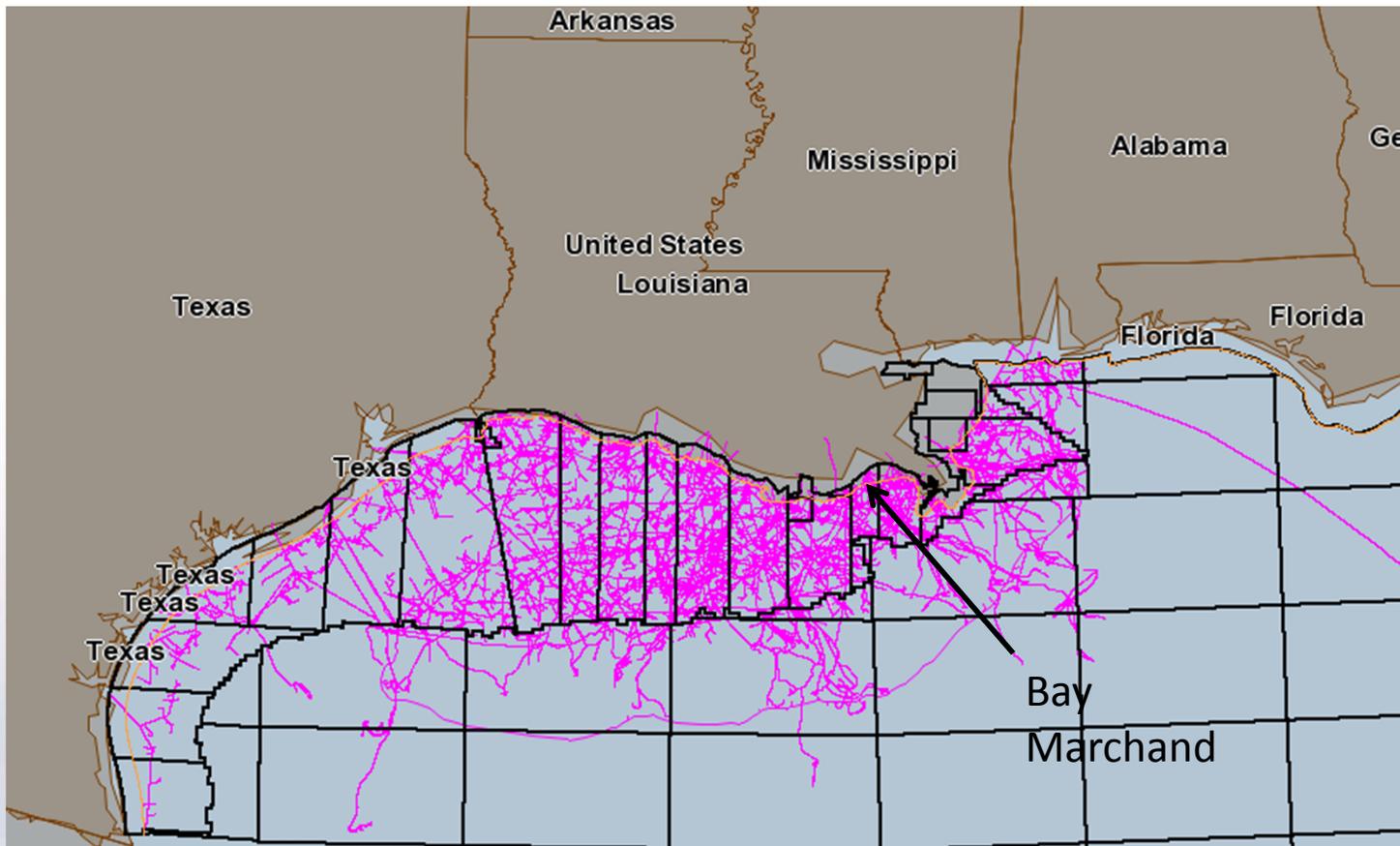
DP2 HOS Mystique



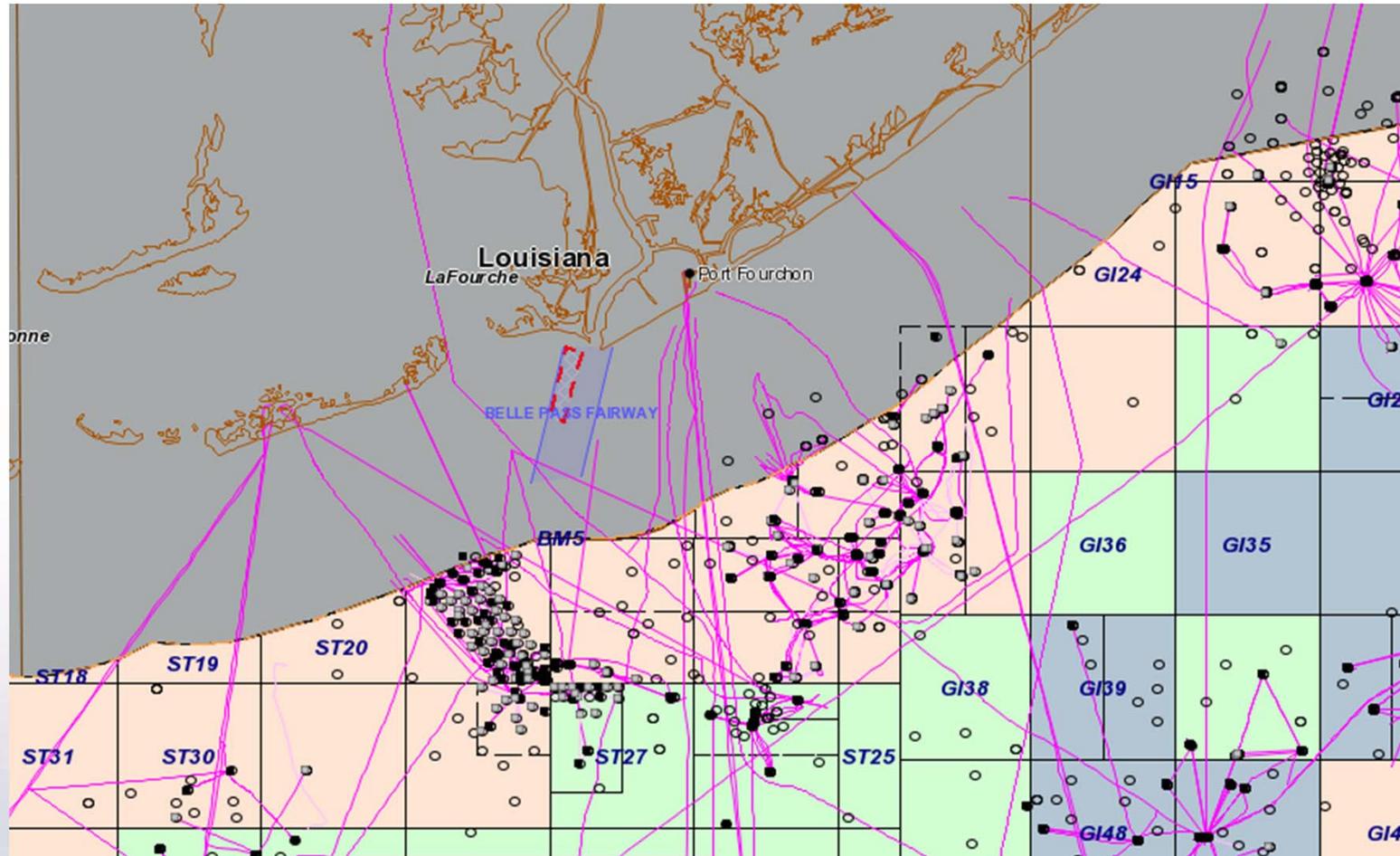
 <b>AQUEOS</b> 101 Millicane Road, Suite D Braintree, LA 70018 (507) 650-1992	Poc: CHEVRON	Title: HOS MYSTIQUE EXCURSION LIMITS
	Project: PIPELINE REMOVAL	
Date: 05/24/12	Drawn By: MAF	Sheet No.: 1

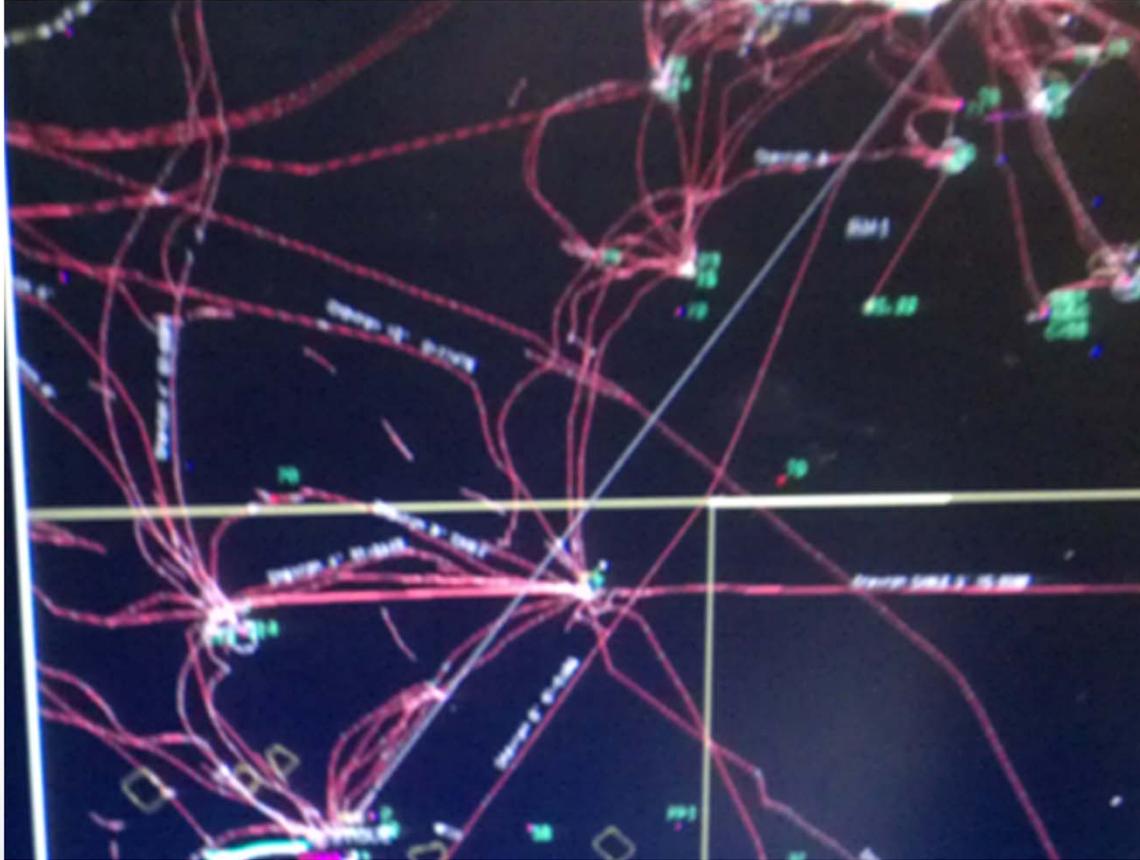


# Gulf of Mexico Pipeline System (Federal Waters)

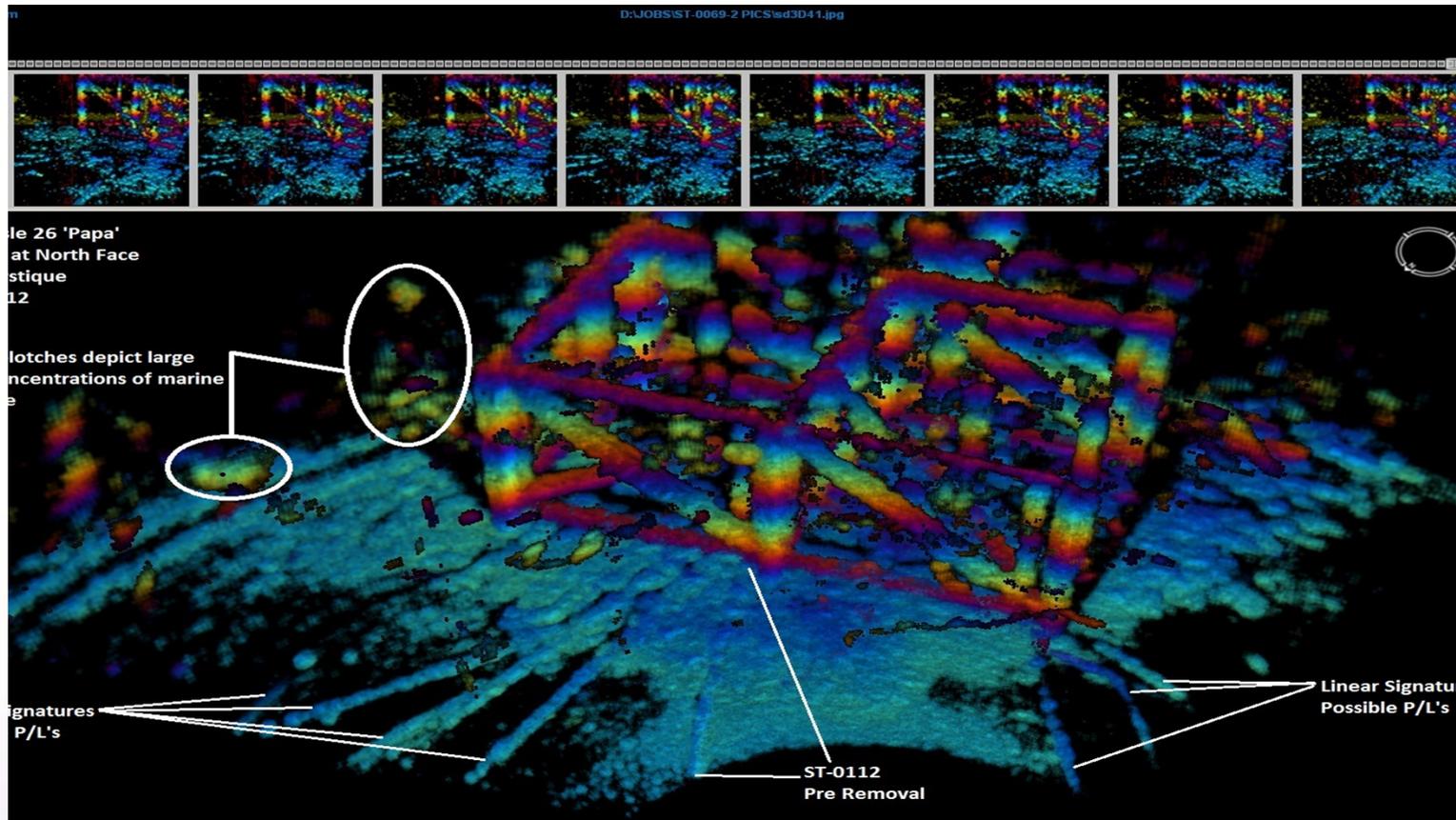


# Bay Marchand Field





## Subsea Pipelines



Echoscope Sonar Image

# Track Link Sending Unit Attached to Diver Emergency Bail Out Bottle



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# Diver Being Briefed and Dressed for Pipe Recovery



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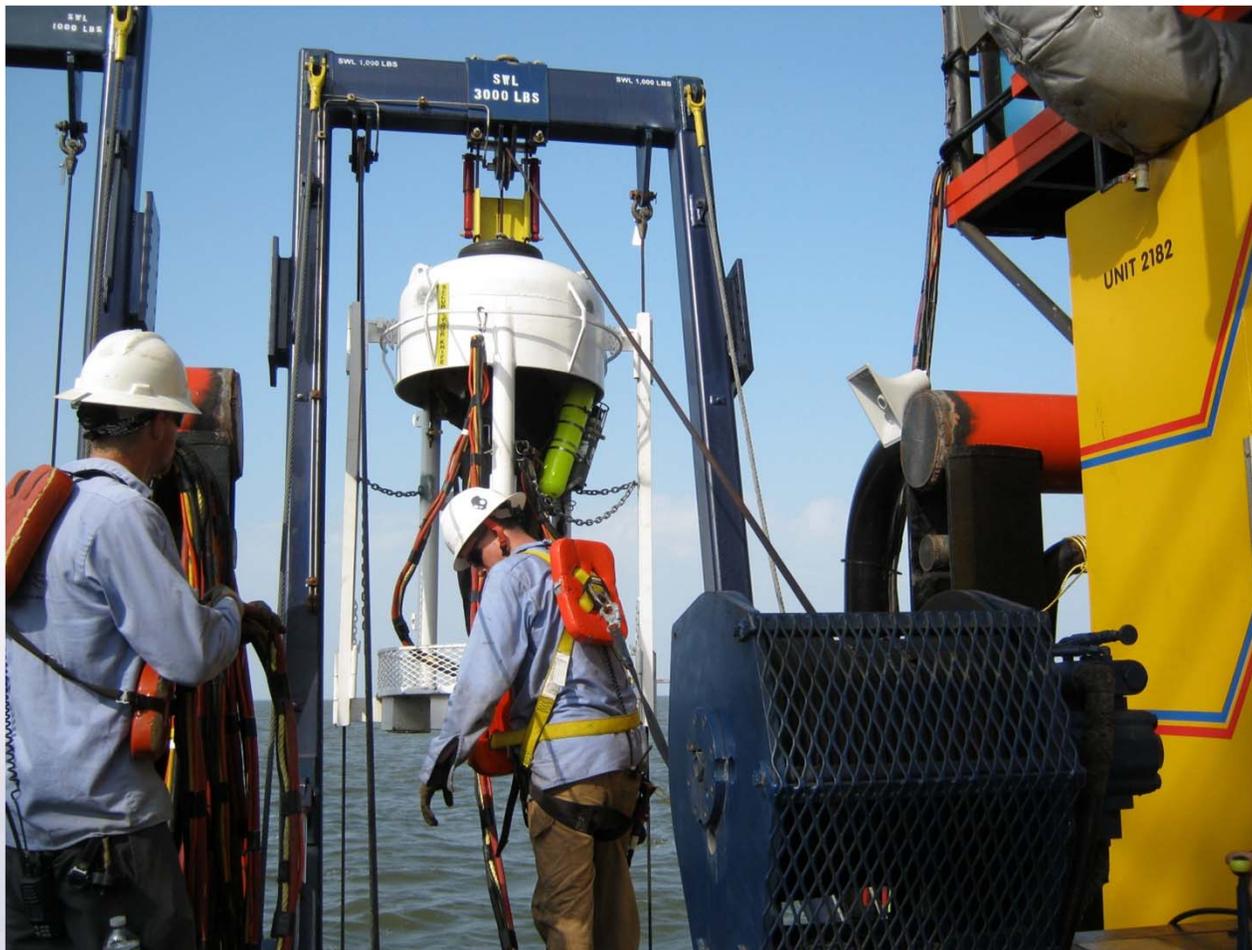
# Diver Tracking Device



# Diver Dressing In



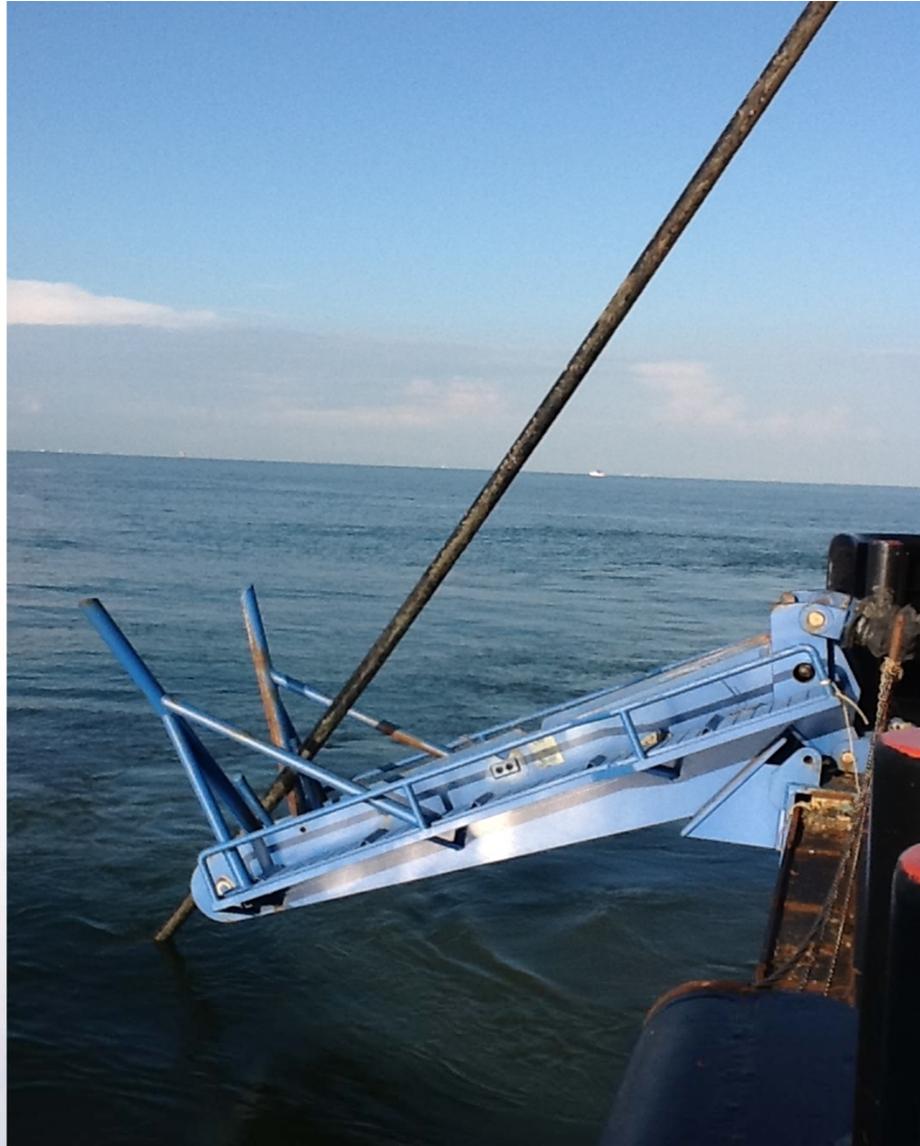
# Diver in Stage



# Twin LARS System







# “Pac Man II” Pipe Recovery & Containment Unit Bow to Stern View



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# 40,000# Pulling Winch



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# Portable Hydraulic System Station



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# “Pac Man II” Overhead View Stern to Bow



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# “Frog Cutter” Being Attached For Pipe Severing



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# Making Cut With “Frog Cutter” Trough Catching Fluid



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# Pipe Cut and Released From “Frog Cutter”



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# 100% Norm Survey Performed



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# Pipe Bundle being transferred from “Bundling Rack” to “Ready Rack Bundle”



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# Full “Ready Rack” 44,000# of pipe



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GIL 3 PowerPoint Template

# Bundles being loaded to supply boat



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# Cargo vessel arriving at the Transfer Dock In Leeville, La



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# Pulling Vessel: L/B Eagle



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# Spread Production Rates

- 2012 Campaign April-October
- We have removed over 100,000 feet of pipe this year.
- 70,000 with the pulling system
- 30,000 with divers cutting
- Pipe size range included 3", 4", 6" & 8"

# Summary

- Completed over 1200 surface dives from the vessel.
- Completed over 400 underwater pipe saw cuts using Guillotine and Reciprocating Saw
- Extremely cost effective approach for shallow water pipeline removal using DP vs. using a Lift Boat
- Exceeded customers expectations, met Lean-Sigma Goals
- Customer saved over \$6.8M utilizing DP vs. Liftboat
- Tools and methodology are adaptable to other locations



## QUESTIONS