Shallow Water Pipeline Removal Process
Bay Marchand
Gulf of Mexico

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Diver Emergency Drill
Gulf of Mexico Pipeline System (Federal Waters)
Pipeline Removal Phases

- Pipeline Abandonment Plan & Permitting
- Diver Hands on survey
- Pipe Prep
- Pipe Pulling
Geodetic Survey Mapping of seabed used in planning diver survey strategy
Diver Hands On Survey
Track Link Sending Unit Attached to Diver Emergency Bail Out Bottle
Track Link Receiving Unit
Diver Entering Water With Down Line
Diver recovery on Starboard Mid-Ship
Preparing Pipeline Sections For Removal
Slice & Dice”
“Slice & Dice Plan” W/ SJA established for Seg 371 - 3
Lift Boats Preparing P/L Sections For Flushing and Removal
Pipeline cutting under containment dome
Sealed pipelines hot tapped for entry
Plumbers Plug W/Wing Nut
Pneumatic Plug W/Plug Dog (PPWPD)
Modified New Pipe Plug along side T-grip with Plug dog
Pipe Caps used to hold nut type plugs in place
Riser Removal
Sharp bends are cut out of pipe section ends
Valves etc. on pipeline pick up ends are permissible
Short spans of pipe sections recovered by Slice & Dice Prep Vessel
PIPELINE REMOVAL PROCESS
Pulling Vessel: L/B Eagle
Pac Man II  Pipe Recovery & Containment Unit  Bow to Stern View
40,000# Pulling Winch
Portable Hydraulic System Station
“Pac Man II” Overhead View Stern to Bow
Bow End Adjustable Hydraulic Stinger
Safety Slips Rigged for Diver Installation
“Slammer Clamp” Rigged for Diver
Diver Being Briefed and Dressed for Pipe Recovery
Diver Lowered to Seabed From Stage
Attaching Crane Line To Pipe End and Safety Slips With Winch to Pipe End
Diver Up and Standing Clear to Assist
Pipe End Lifted to Surface
Pipe End Being Drug Into Stinger
Pipe End Pulled Over Trough
Pipe Dogged Down  Pull Tension
Relaxed
“Frog Cutter” Being Attached For Pipe Severing
Making Cut With “Frog Cutter” Trough Catching Fluid
Pipe Cut and Released From “Frog Cutter”
100% Norm Survey Performed
30' Pipe Joint Being Loaded Into “Bundle Rack”
Adjusting Severed Pipe Joint Into Bundle Rack
Coupons From Frog Cut and Coatings Captured in Trough
All Captured Pipeline Fluids Are Transported to Shore for Disposal
Recovered solids are transported to shore for disposal in 15 bbl cutting boxes.
Pull rigging and cable being attached for next pull
Tension applied to pipe to confirm connection. Chain is certified tested Spectrum 10.
Dogging connection is released for pull
Pipe Pull Sequence Video
Pipe Bundle being transferred from “Bundling Rack” to “Ready Rack Bundle”
Full “Ready Rack” 44,000# of pipe
Bundles being loaded to supply boat
Cargo vessel arriving at the Transfer Dock In Leeville, La
Spread Production Rates

• Mid-June to mid-October- removed approximately 95,000’ of pipe

• Pipe size range included 3”, 4”, 6” 8”, 10”, 16”

• 24 hour average 8” -1000’-1200’ recovered

• 24 hour average 4” -2500’ recovered
Summary

- Cost effective approach for shallow water pipeline removal
- Tools and methodology are adaptable to other locations and water depths
- Detailed procedures and operational discipline are keys to Incident-free operations
Questions?