

Seahorse Shuttling and Technology



“A New Venture in the U.S. Market”

ConocoPhillips

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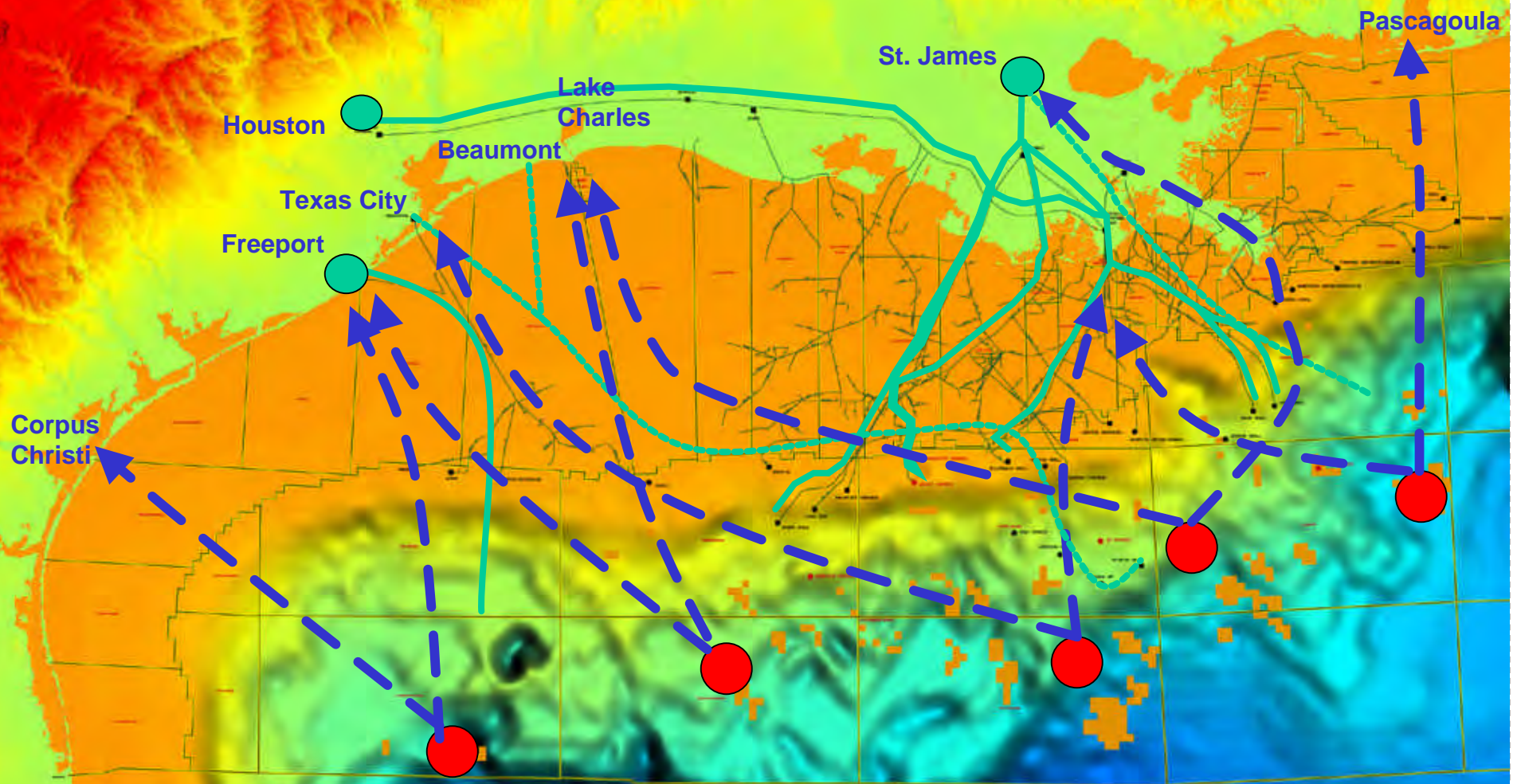


What's Important?

- **Field Owner Considerations**
 - Value
 - Risk
 - Regulatory
 - Safety and Environment
 - Deliverability
 - The ConocoPhillips solution
 - ConocoPhillips Marine
 - Seahorse Shuttling and Technology L.L.C.
 - ConocoPhillips / Samsung / Alabama Shipyard Alliance



Shuttling Value Proposition



Delivering Deepwater Crude Oil safely,
reliably and economically throughout the
Gulf of Mexico



Shuttling Value Summary

- Objective: IRR improvement

$$\text{IRR } \uparrow = \text{Revenue } \uparrow + \text{Cost } \downarrow + \text{Timing } \downarrow$$

- Typical Deepwater Project with Shuttling:

- ✓ Revenue Increase (\$/bbl) = \$.25 Location + \$.25 Segregation netback
- ✓ Cost Reduction (\$/bbl) = Shuttling versus pipeline \$0.25 to \$0.75
- ✓ Timing = 1 to 2 years acceleration

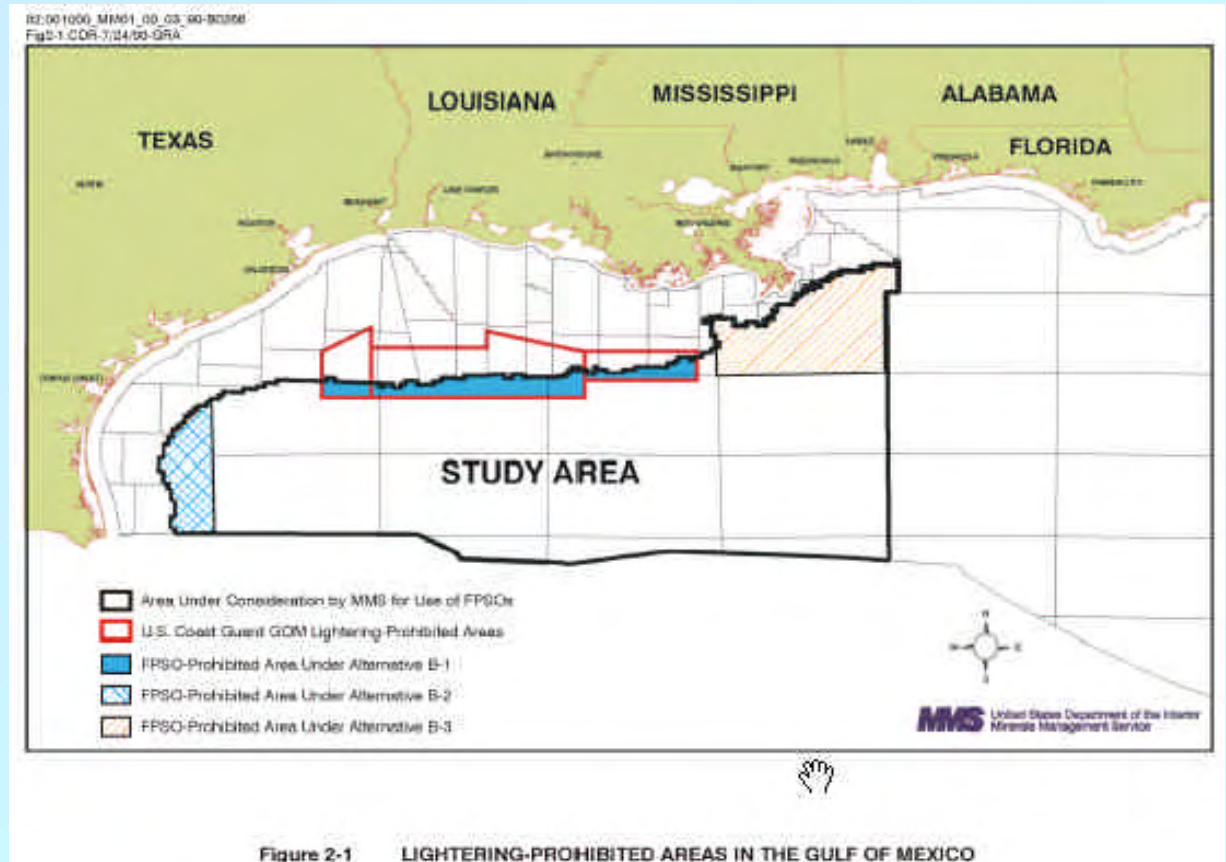
IRR increases from 2% to 5%



Field Owner Considerations - Risk

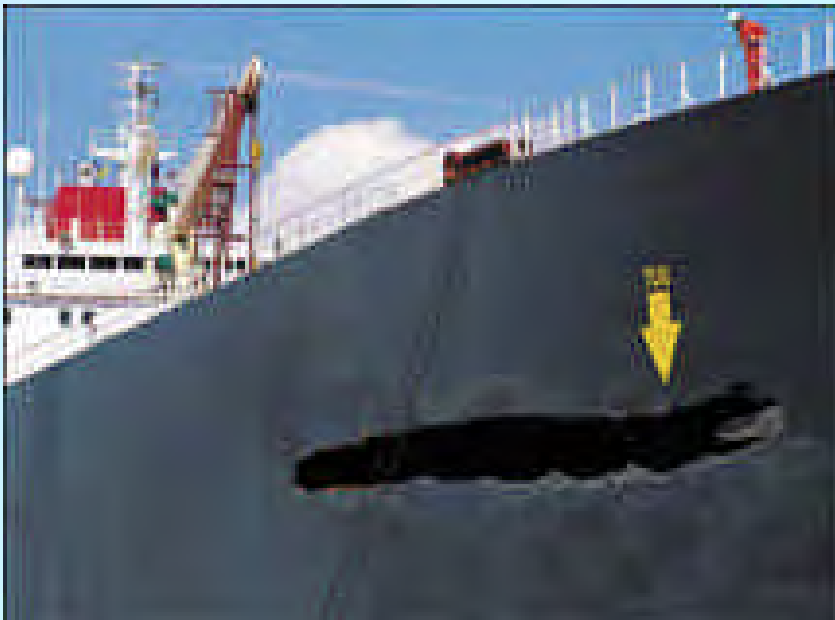
Regulatory

- Jones Act and OPA 90 guidelines
- MMS / USCG Memorandum of Understanding
- USCG Operational Guidelines
- MMS FPSO EIS ROD



Field Owner Considerations - Risk

- **Safety and Environmental**
 - Reliability
 - Oil Spills
 - Collisions
 - Emissions
 - Public Perception



Field Owner Considerations - Deliverability

Conoco / Samsung / Alabama Alliance



- US Owner and Operator
- Fit for Purpose Design
- Simplified Hull Form
- Modular Design for Vessel Assembly
- Proven Primary Vendor Alliance

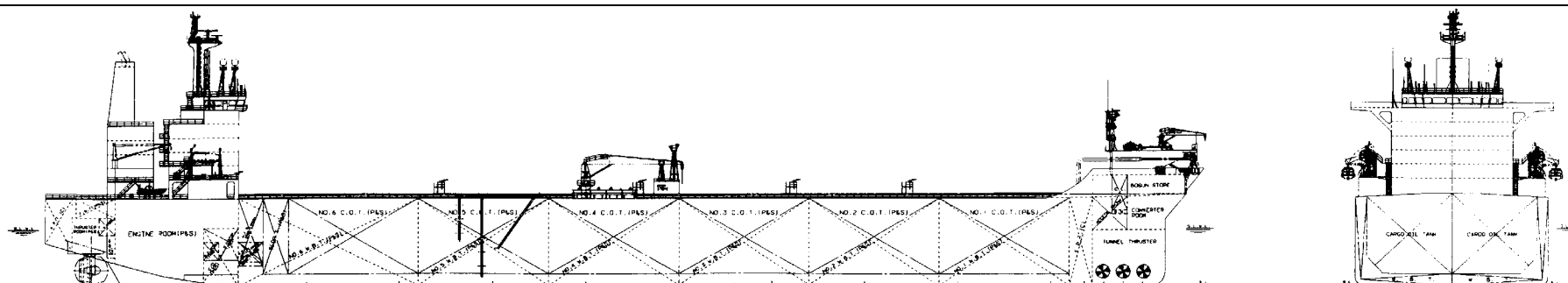


- High Efficiency Shipbuilding
- ABS/USCG/ACP Approved Design
- Total Material Procurement Package
- Pre-commissioned Engineering modules
- Personnel Exchange with Alabama



- US Shipyard
- Hull Construction
- Vessel Assembly





MAIN PARTICULARS

Length overall	apprx. 240	m
Length between perp.	232.0	m
Breadth, moulded	40.0	m
Depth, moulded	18.4	m
Designed draught, moulded	11.88	m
Scantling draught, moulded	12.0	m

DEADWEIGHT

At designed draught	apprx. 78,000 MT
At scantling draught	apprx. 79,000 MT

TANK CAPACITIES

Cargo oil tanks including slop tanks	apprx. 89,300 m ³
Heavy fuel oil tanks	apprx. 2,000 m ³
Diesel oil tanks	apprx. 300 m ³
Fresh water tanks	apprx. 200 m ³
Ballast water tanks	apprx. 38,000 m ³

CLASSIFICATION

ABS
*A1(E), "Oil Shuttle Tanker", SH, *AMS, *ACCU, SH-DLA, VEC, ES, ESP, DPS-2, COW, IGS, NIBS, HAB(preliminary)

REGISTRATION

US

INTENDED CARGO

Crude oil

SERVICE SPEED

apprx. 13.5 kts
(designed draught, @ 11,000 KW, 15% power margin)

PROPULSION SYSTEM

Number of set	Two (2)
Type	Steerable thruster 2 x 6,500kW

CRUISING RANGE

apprx. 10,000 NM

MANOEUVERING EQUIPMENT

Bow thruster(tunnel type) : 3 sets x 2,000kW

POWER SUPPLY

Main diesel generators	4 Sets x 4,100 kW
Emergency generator	1 Set x 500 kW

PAINTING SYSTEM

Under water hull	: Tin free SPC A/F
Cargo tanks (top&bottom)	: Tar free epoxy
Water ballast tanks	: Tar free epoxy

CARGO LOADING SYSTEM

Bow loading system + VOC return system

CARGO SYSTEM

Segregation	: Two(2) groups
Pump	: 12 Sets x 950m ³ /h x 135mlc-Cargo
	2 Sets x 500m ³ /h x 135mlc-Slop
	Centrifugal, deep-well, electric motor driven

WATER BALLAST SYSTEM

System	: Ring main line
Pump	: 2 Sets x 1,500 m ³ /h x 25mwc
	Centrifugal, deep-well, electric motor driven

STEAM GENERATING PLANT

Aux. boiler	: 1 Set x 12 ton/h
Economizer	: 2 Sets x 1.2 ton/h

NAVIGATION EQUIPMENT

2 - Radar plant
1 - Auto pilot / Gyro compass
1 - DGPS navigator

COMPLEMENT

21 P + 14 Riding crew

GoMAX 550,000 BBLs SHUTTLE TANKER

Project No.	HN5085
Revision No.	00
Date	2002. 04. 22.

GoMAX Primary Vendors

- **Wartsila**
 - Main engines. All support systems - Cooling, Fuel Oil and Lubrication.
- **ABB**
 - Electrical Power equipment - Generators, Bus Bars & Ties, Circuit Breakers, Motor Control Centers, Transformers, Frequency Controllers and all Electric Motors.
- **Rolls-Royce**
 - Main Propulsion (Azimuthing) Thrusters, and all associated support systems.
- **Kongsberg Simrad**
 - All Automation & Control Systems and Electronic Data Monitoring Systems. Includes ~3,000 Sensors, Fiber Optic Ring Main, Automation Computers & Displays, Dynamic Positioning Sensors, Computers & Displays, Vessel Control Systems, Fire Alarm and Monitoring Systems.
- **Marflex**
 - Deepwell Pump Systems for cargo, slop and ballast tanks.
- **Wartsila Lips**
 - 3 Bow Thrusters and their support systems.



Alabama Shipyard, Mobile AL



Alabama Shipyard - Progress

“To be the shipyard of choice for Jones Act vessels”

- **Early 2001**

- Cut steel before engineering and planning (Hope is not a plan!)
- Metrics, historical and noisy
- Competitive teams (not my problem)
- Accuracy control + - 50 mm
- Flat steel warped, curved steel not to drawings
- Erect 2 units a week (with difficulty)
- Worked like heroes (big hammers in the sun)

- **June 2002**

- Engineering complete with work content based plan
- Metrics, weekly, stable, improving
- Single production team (supportive work stations)
- Accuracy control +0 –3mm
- Flat steel kept flat, curved steel to drawings
- Erect two units a day with a skeleton shift
- Work smart, work easy (no hammers under cover)

- **Have confidence and enthusiasm to improve!**



Production Schedule and Fleet Capacity

- Alabama Shipyard capacity - 2 tankers per year
- SST tanker delivery schedule and fleet capacity:

<u>Vessel #</u>	<u>~Fleet Capacity</u> (bopd)
1st vessel, Q1 2005	125,000
2nd vessel, Q3 2005	250,000
3rd vessel, Q1 2006	375,000
4th vessel, Q3 2006	500,000



ConocoPhillips

- **Shuttling Synergies**
 - Gulf of Mexico Deepwater Acreage & Activity
 - US Flag Owner / Operator
 - Gulf of Mexico International Fleet Operations
 - Construction of US Flag Tankers at Avondale
 - ConocoPhillips / Samsung / Alabama Shipyard Alliance



US Flag Operations - Polar Tankers



- **ConocoPhillips merger announced August 2002**
 - Provides Seahorse with access to Polar Tankers experience:
 - US Flag Operations and organization
 - US crews
 - Polar Tankers:
 - Wholly owned subsidiary of ConocoPhillips
 - 6 Vessel tanker fleet
 - includes two U.S built, double-hulled, state of the art “Endeavour Class” tankers
 - » 3 more scheduled for delivery before 2005
 - 300 sea-going and shore-side personnel
 - 130 MMBO per year transported from Alaska to W. Coast and Hawaii
- **Seahorse / Polar Tankers relationship**
 - Manager U.S. Flag West Coast Operations, former President Seahorse Shuttling and Technology



Experience - Gulf of Mexico Operations

- **ConocoPhillips Marine International & Domestic**
 - Provides Seahorse with access to Gulf of Mexico experience:
 - US Gulf Coast Port familiarity
 - US Gulf Coast shoreside support
 - International Marine Organization (IMO)
 - 6 Aframax vessel tanker fleet
 - Samsung built, double-hulled, 2nd generation design
 - 1 North Sea shuttle tanker
 - 1 FPSO and 2 Drillships
 - 110 MMBO per year transported
 - Domestic Marine Organization (DMO)
 - 7 Push boats and 14 double-hulled barges
- **Seahorse / ConocoPhillips Marine relationship**
 - Manager IMO/DMO Gulf Coast Operations, former Polar Tankers Operations





ConocoPhillips



ConocoPhillips Marine

- Operates North Sea Shuttles
- Operates in U.S. Gulf of Mexico, East & West Coast ports
- Operates FPSOs
- Upstream integration



ConocoPhillips



Safety and Environmental Leadership

- **Conoco Marine**

- Ordered 1st double hull crude oil tanker April 1990
- All double hulled ship and barge fleet 1998
- Initial use of voyage data recorders 1995
- 2nd generation double hull tankers
 - Ballast water exchange system
 - Tin free coatings
 - Lower emission engines
- Testing VOC recovery system on North Sea shuttle

- **Polar Tankers**

- Implementing all double hull, advanced capability fleet
 - 2 in service, 3 under construction



 ConocoPhillips



Seahorse Shuttling and Technology



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ConocoPhillips

