

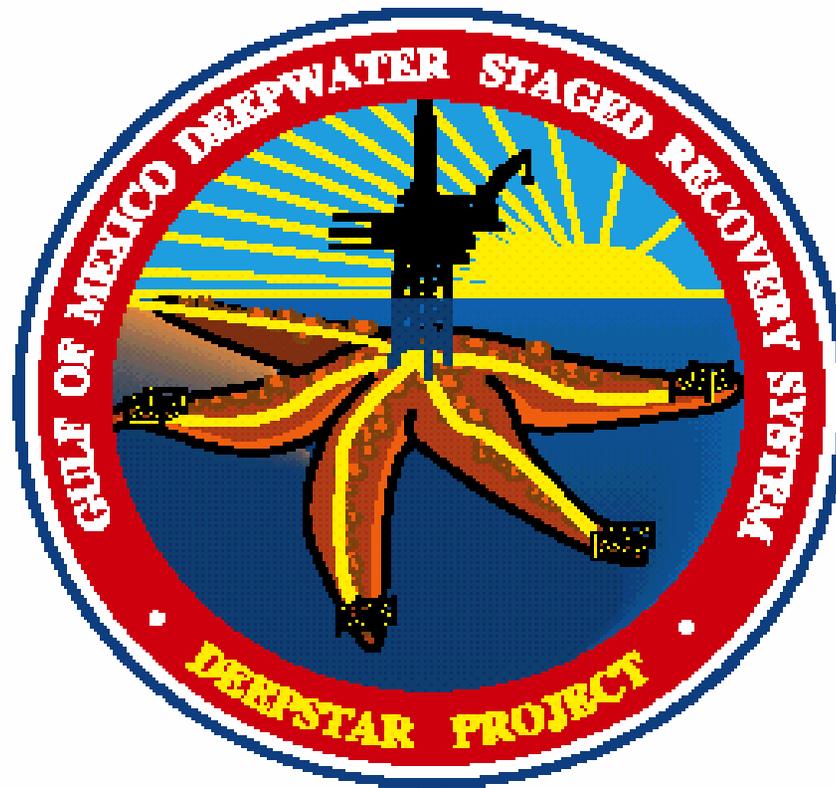


# DeepStar's Mission

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Facilitate a cooperative, globally aligned effort focused on identification & development of economically (full life cycle) viable, acceptable risk methods to drill, produce and **transport** hydrocarbons from deepwater, focused on depths from 4,000 to 10,000 feet.

**DeepStar Systems Engineering Committee**  
**CTR 6901**  
**Techno-Economic Evaluation of Marginal Fields**



# Marginal Field Cases

## Field 1 – Cottontail - GOM 5,000 fsw:

- Data from CTR 4710-1 Reservoir Characterization.
- Reservoir # 1 – 36.6 MMbo reserves.
- Reservoir # 2 – 30.7 MMbo reserves
- Field Total - 67.3 MMbo EUR

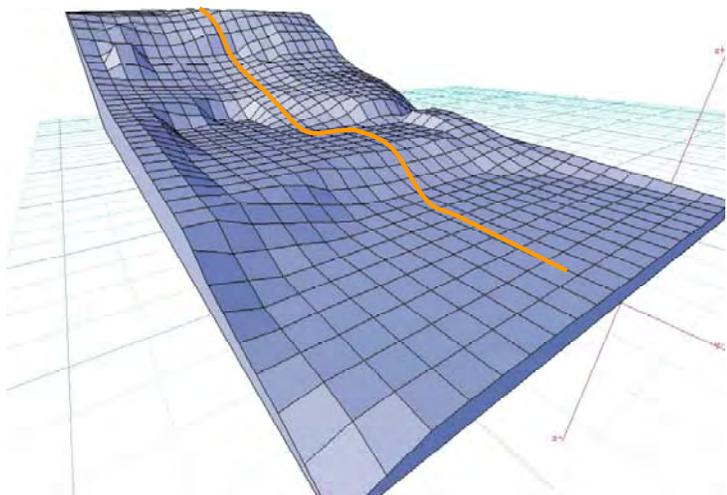
## Field 2 – Coyote - GOM 10,000 fsw

- Reservoir # 1 – 6.8 MMbo Reserves (poor zone)
- Reservoir # 2 – 71.6 MMbo Reserves with Water Flood
- Reservoir # 3 – 41.9 MMbo Reserves
- Field Total 120.3 MMbo EUR

## Field 3 – Hyena - West Africa 5,000 fsw

- Total Reserves
- 200 MMbo

## Field 1 – Cottontail - GOM 5,000 fsw

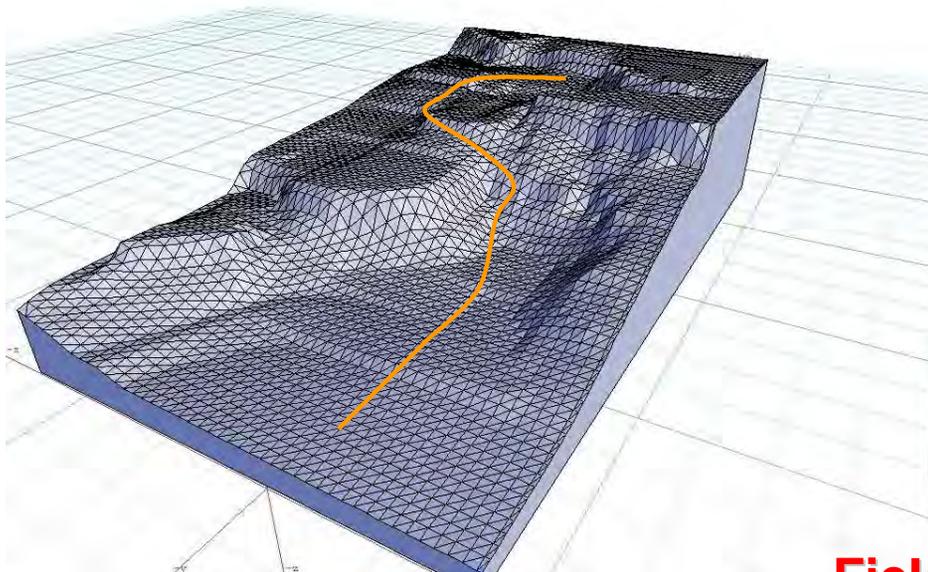


**3 Reservoirs**  
**3 Subsea terrains**

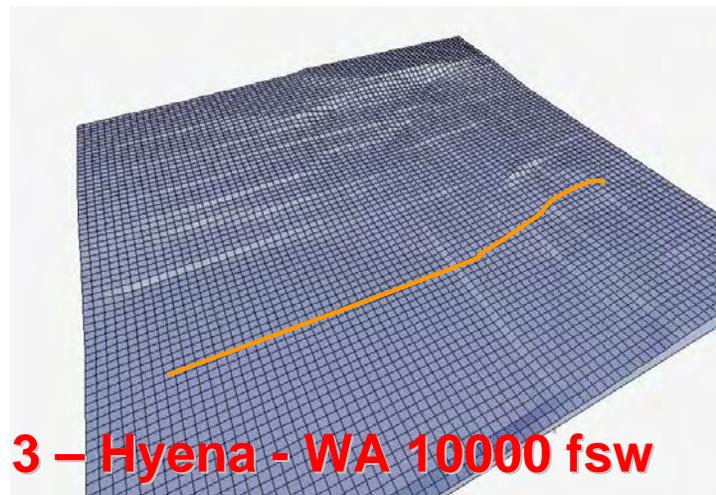
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Proposed Pipeline Routes

## Field 2 – Coyote - GOM 10000 fsw



## Field 3 – Hyena - WA 10000 fsw



**CASE 4****Cottontail - Marginal Field**

30 Miles Tie back to HOST

"Well Access" - "In- Field Processing"

Scenario

GOM 5000 ft WD

67.3 mmbbls Complex Reservoir in 2 Zones

Mini TLP Floater w/ Dry wells

4 Wells Drilled by MODU

4 Well Completed by onboard TLP Leased Drilling Spread

In Field Process

Water Knock out and disposal

Water Cleaning &amp; Disposal

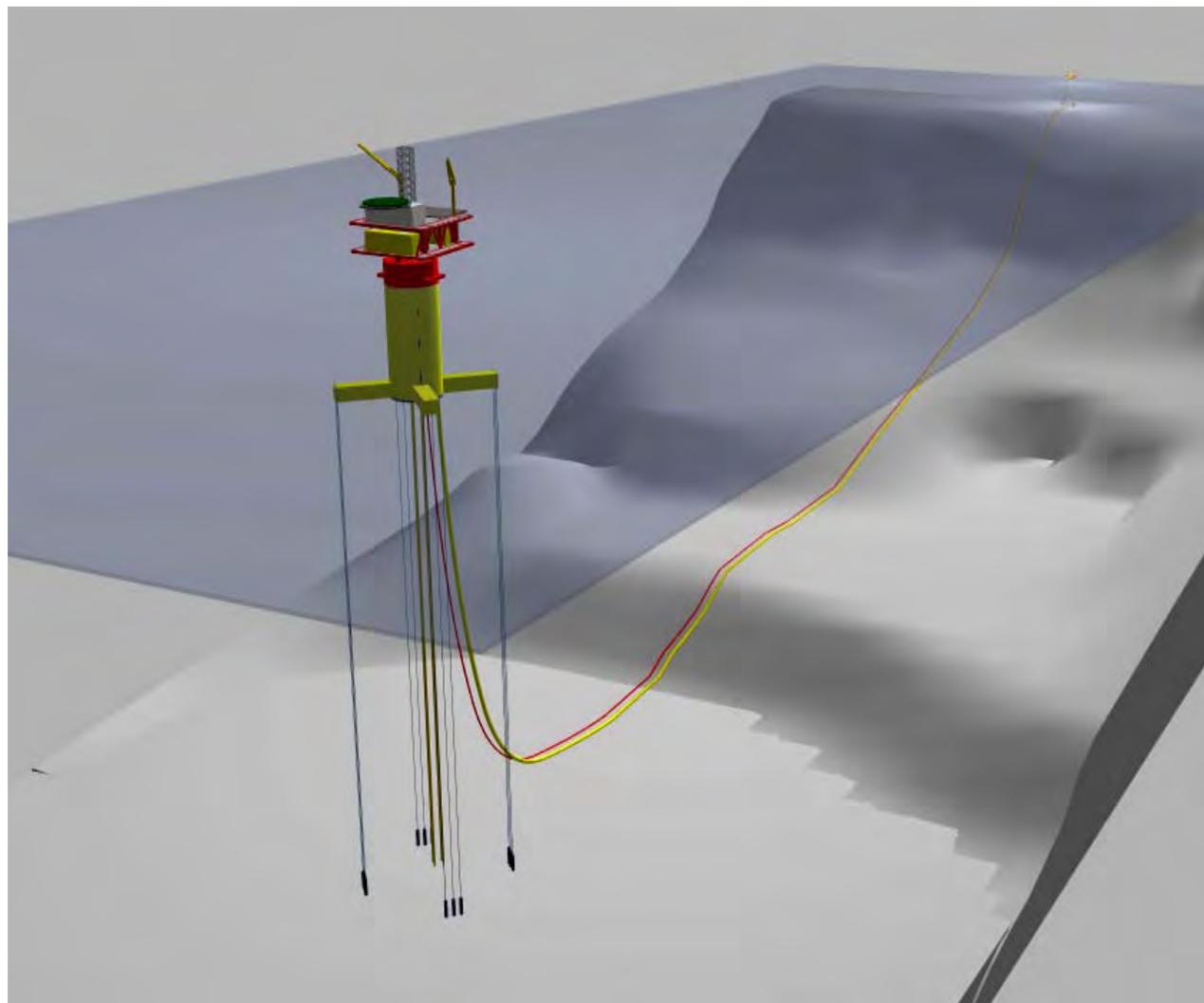
Host Processing/ Supply

Oil Processing by Tarrif

Gas Processing by Tarrif

Power Umbilical w/ Controls

Optical Cable Control

**Cottontail Case 4**

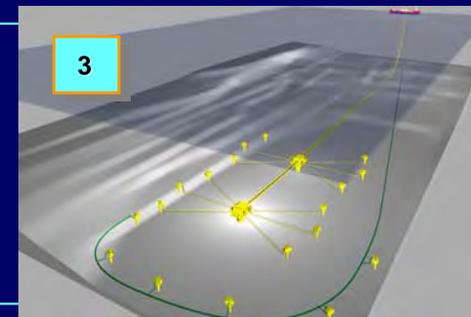
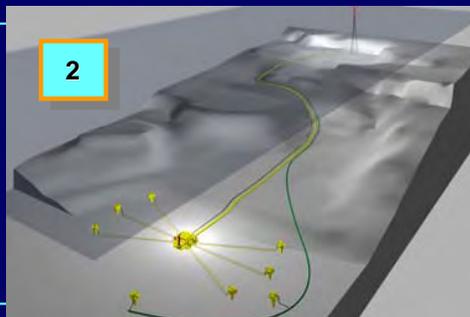
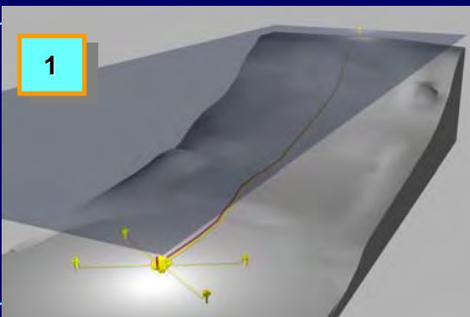
Reserves		Wells		Infrastructure		In Field Architecture		Operations
Total	67.3 mmbbls	<b>Production wells &gt;&gt;&gt;</b>	4	Waterdepth at location	5000 ft	Surface facilities	Mini TLP	Drilling
Zone 1	36.6 mmbbls		(3 Wells +1 delin.w)	Waterdepth at Host	1300	Manning	Unmanned	Well Drilling
Zone 2	30.7 mmbbls			Distance to Host	30 Miles	Lifesaving	2SurvC's+1MOB	Well Completion
Reservoir I		<b>Water Injection &gt;&gt;&gt;</b>				Process - In-Field		Work Over
Initial BHP	9845 psig	Reservoir (I & 2) Depth	14500 ft/ 15 500 ft	Host Processcapacity Req.	60 Mbopd	Test Separator	Separator Skid	
Initial BHT	151 F	Casing Program		Host arrival pressure	700 psi	Water Knock Out Separation	Separator Skid	
Oil Gravity	31 Grade API	36'	- 300 ft	Export	Trunkline	Water Cleaning and Disposal	W.Treatm.Skid	Pigging
Initial GOR	1192	20" W 183/4 WH	- 4000 ft			Mooring	12 tethers	
Reservoir II	15500 ft	13 3/8"	- 6000 ft	Power from Host	HV Cable			
Initial BHP	10375 psig	11 3/4"	- 8500 ft	Controls from Host		Bare Steel Export Riser System	Catinary	
Initial BHT	160 F	9 5/8"	- 11400 ft	Built into Power Umbilical	Fiber Optic	Dynamic Power Umbilical w/ctr.	Catinary	
Oil Gravity	25 Grade API	Production Tubing				Bare Steel Export Flowlines	30 miles	
Initial GOR	950	OD x W.T. x ID	5.5" x 0.304" x 4.892"			Power Umbilical w/ controls	30 miles	

**Cottontail Cases  
5,000' wd GOM**

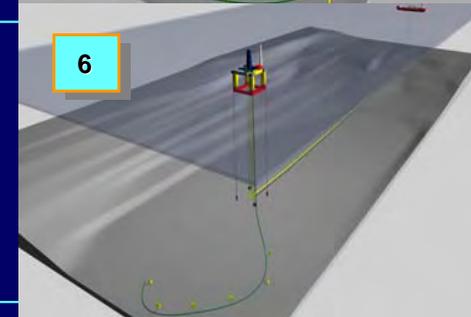
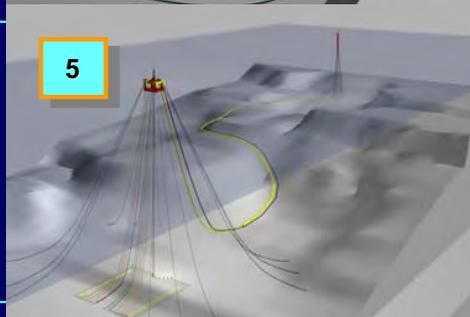
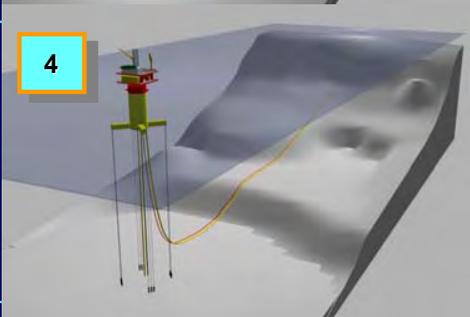
**Coyote Cases  
10,000' wd GOM**

**Hyena Cases  
5,000' wd West Africa**

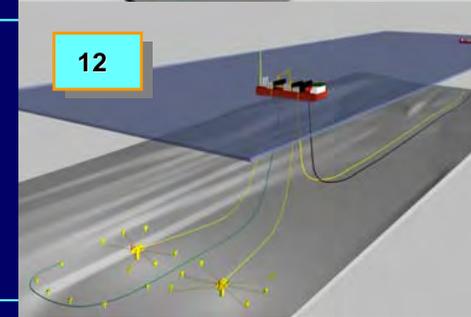
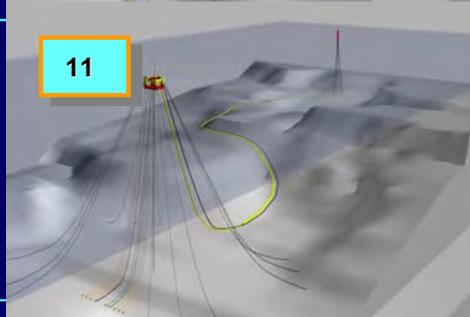
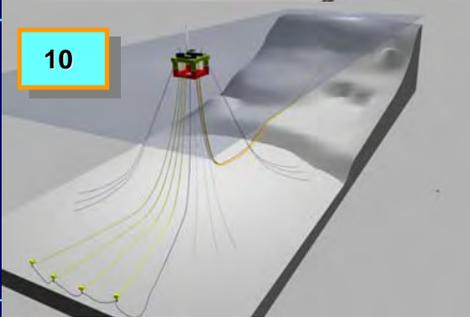
“Tie-Back  
w/ Heated  
Flowlines”



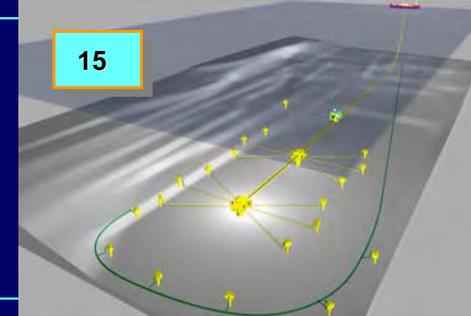
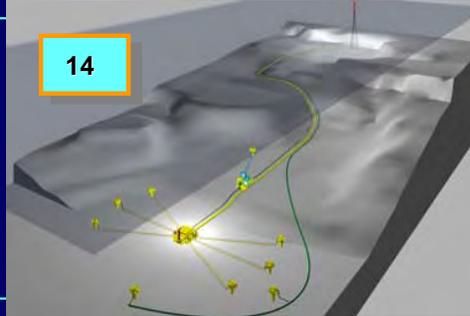
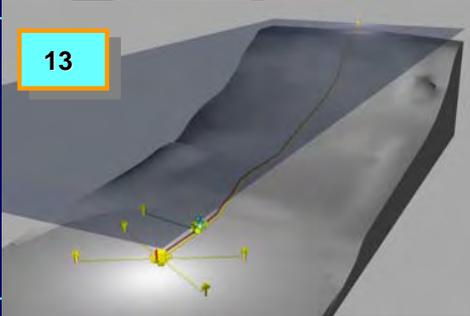
“Well  
Access”

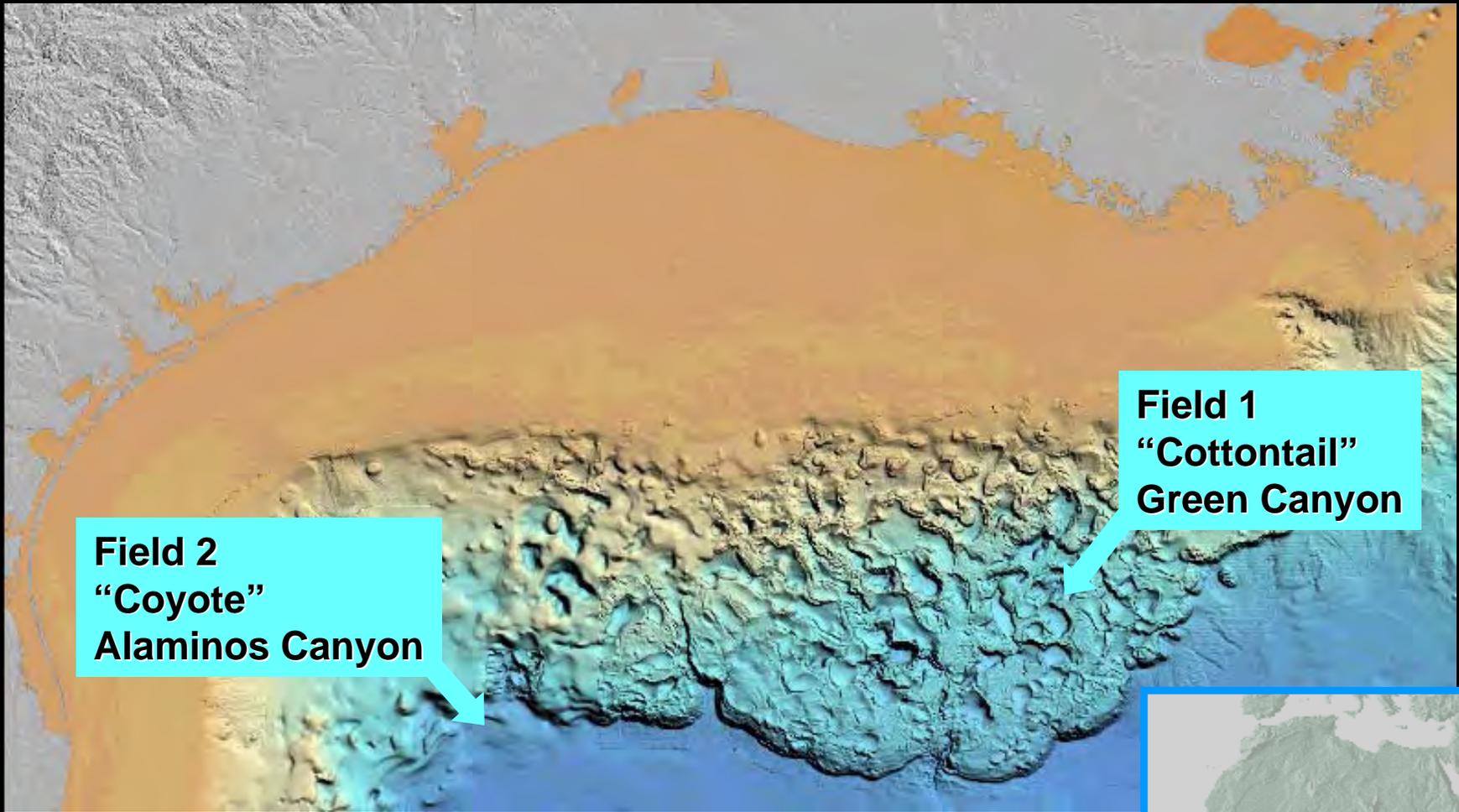


“In Field  
Processing”



“SubSea  
Processing”





**Field 2**  
**"Coyote"**  
**Alaminos Canyon**

**Field 1**  
**"Cottontail"**  
**Green Canyon**

**Field 3**  
**"Hyena"**  
**West Africa**





# Shuttle Tanker Export

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- Shuttle tanker export evaluated as option for GOM cases
- Results are encouraging!
- Particularly ultra-deep water areas
- Has more potential when viewed as area infrastructure



# Shuttle Tanker Export

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## Cost

- Offshore pipeline tariff
- Onshore pipeline tariff
- Shuttle Tanker costs

## Revenue

- Crude co-mingling value impact
- Crude sales value in wider market