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# **Louisiana Offshore Oil Port (LOOP)**

# Welcome to LOOP...

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- LOOP, Louisiana Offshore Oil Port, is the largest point of entry for crude oil coming into the U.S.
- The deepwater port is located 18 miles offshore in the Gulf of Mexico in 110 ft. of water.
- LOOP receives crude oil from two sources:
  - Large ships carrying crude oil to the US from foreign countries
  - Domestic deepwater oil production wells operating in the Gulf of Mexico
- LOOP receives, stores and distributes multiple grades of crude oil as needed to US refineries for processing into petroleum products.
- We can handle the largest ships in the world through our 3 single point moorings (SPM) and can offload at rates up to 100,000 barrels per hour.

# Background

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- LOOP is owned by three major oil companies: Marathon Oil Company, Murphy Oil Corporation and Shell Oil Company.
- Since beginning operations in 1981, LOOP has safely managed the transfer of 7.7 billion barrels of crude oil to US refineries through 7,000 tanker calls.
- LOOP is a federally designated “common carrier” facility open to all for the importation of crude oil.
- LOOP is regulated by the U.S. Department of Transportation (DOT) and the Louisiana Offshore Terminal Authority (LOTA).

# Statistics

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- LOOP currently offloads approximately 1.2 million barrels of foreign crude daily and averages 32 tanker visits per month.
- LOOP currently handles around 325,000 barrels of domestic crude oil daily from offshore platforms (Mars Stream).
- In addition, LOOP will be handling the Thunder Horse stream from the Gulf of Mexico which will be coming online in the second half 2008 and is expected to produce 250,000 barrels per day.
- The port has received numerous awards for its safe and reliable handling of crude oil.

# Marine Terminal

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# LOOP's Business

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- LOOP transports crude oil to its onshore facilities through a 48-inch underground pipeline.
- We have 50 MM barrels of storage in 8 underground caverns at Clovelly, LA.
- Extensive distribution system provides access to 50% of US refining capacity.
- An above-ground tank farm was built at Clovelly to handle additional grades of crude oil. Six 600,000 bbl tanks are currently in service with six more under construction.
- LOOP is able to custom blend crude oil creating value for refiners.

# Clovelly On-Shore Facilities

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# Refinery Distribution



# Distribution Systems

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- Four outgoing pipelines allow LOOP the ability to move crude oil to a large number of refiners, mainly along the Gulf Coast and into the Midwest.
- The next slide lists the refineries that LOOP is able to deliver to.

# LOOP Refinery Access

LOOP MARKET AREA REFINERIES					
Mississippi River		Midwest		Louisiana - Texas	
Refinery	Capacity (MB/D)	Refinery	Capacity (MB/D)	Refinery	Capacity (MB/D)
Chalmette Refining	190	BP, Toledo	152	Astra, Houston	100
ExxonMobil, Baton Rouge	500	BP, Whiting	410	BP, Texas City	437
Marathon, Garyville	245	ExxonMobil, Joliet	236	Citgo, Lake Charles	440
Motiva, Convent	240	Flint Hills, Pine Bend	290	ConocoPhillips, Westlake	245
Motiva, Norco	265	Lion, El Dorado	65	Deer Park Rfg, Deer Park	340
Murphy, Meraux	125	Marathon, Canton	73	ExxonMobil, Baytown	580
Valero, St. Charles	185	Marathon, Catlettsburg	222	ExxonMobil, Beaumont	349
Placid, Port Allen	70	Marathon, Detroit	100	Lyondell, Houston	269
Shell St. Rose	55	Marathon, Robinson	192	Marathon, Texas City	72
ConocoPhillips, Belle Chasse	250	Marathon, St. Paul	70	Motiva, Port Arthur	245
Valero, Krotz Springs	78	PDV Midwest, Lemont	159	Total, Port Arthur	176
		Husky, Lima	165	Valero, Houston	83
		Sun, Toledo	140	Valero, Port Arthur	250
		ConocoPhillips, Wood River	306	Valero, Texas City	165
		Valero, Memphis	190		
<b>Total</b>	<b>2203</b>	<b>Total</b>	<b>2770</b>	<b>Total</b>	<b>3751</b>

# LOOP Tank Farm

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- LOOP built and operates six above-ground tanks in an area adjacent to the cavern storage area.
- Each tank has a capacity of approximately 600,000 barrels.
- The tanks were built to allow refiners to import crude types that are outside cavern segregations.
- The tanks will be able to receive and deliver at line rates.
- We are currently building six additional 600,000 barrel tanks and have room to add 10 more tanks of the same size.

# The LOOP Tank Farm



# Records

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- Hourly 107,658 BPH 3/22/05
- Daily 2,184,953 BBLS 10/18/06
- Week 1,598,242 BPD 4/24/05
- Month 1,401,844 BPD April 05
- Year 1,184,936 BPD 2005

# Quality Program

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- LOOP started a Quality Monitoring program in 1998.
- All sweet crudes and some special handle cargos are tracked.
- Delivery batches are compared to MT receipts for API gravity, sulfur, Nickel and Vanadium.
- Sulfur cannot increase by more than 0.16%.
- Nickel by more than 2 PPM.
- Vanadium by more than 6 PPM.
- If 5% of samples in any category exceed the tolerance, the employee compensation plan takes a hit!

# Quality Results

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- Since 1/1/98 we have analyzed over 6,500 samples.
- The following slide illustrated the results.

**CRUDE QUALITY DATA**

**1998 THROUGH 2002**

YEAR	TOTAL SAMPLES	END POINT SAMPLES	SULFUR %			NICKEL PPM			VANADIUM PPM		
			AVG. S CHANGE	# OVER TARGET	% OVER TARGET	AVG. Ni CHANGE	# OVER TARGET	% OVER TARGET	AVG. V CHANGE	# OVER TARGET	% OVER TARGET
1998	650	270	0.06	23	8.52%	0.05	0	0	0.73	7	2.59%
1999	650	266	0.03	5	1.88%	0.02	0	0	0.38	2	0.75%
2000	690	289	0.52	26	9.00%	0.17	3	1.04%	0.52	18	6.23%
2001	730	306	0.04	8	2.61%	0.3	3	0.98%	0.22	0	0.00%
2002	715	287	0.04	13	4.53%	0.52	5	1.74%	0.93	9	3.14%
<b>TOTALS</b>	<b>3435</b>	<b>1418</b>		<b>75</b>	<b>5.29%</b>		<b>11</b>	<b>0.78%</b>		<b>36</b>	<b>2.54%</b>

REMARKS:

1998 THE MOL WAS SHUT DOWN NUMEROUS TIMES FOR STORMS.

2000 WAS AN INVENTORY YEAR. CAVERNS TURNED OVER.

**1998 THROUGH 2002**

YEAR	TOTAL SAMPLES	END POINT SAMPLES	SULFUR %			NICKEL PPM			VANADIUM PPM		
			AVG. S CHANGE	# OVER TARGET	% OVER TARGET	AVG. Ni CHANGE	# OVER TARGET	% OVER TARGET	AVG. V CHANGE	# OVER TARGET	% OVER TARGET
2003	595	228	0.05	9	3.95%	0.3	8	3.51%	0.76	5	2.19%
2004	625	242	0.06	10	4.13%	0.11	3	1.24%	1.4	6	2.48%
2005	765	296	0.52	12	4.05%	0.17	7	2.36%	0.52	4	1.35%
2006	690	278	0.07	10	3.60%	-0.39	1	0.36%	1.06	4	1.44%
2007	455	182	0.05	3	1.65%	0.06	3	1.65%	1.32	2	1.10%
<b>TOTALS</b>	<b>3130</b>	<b>1226</b>		<b>44</b>	<b>3.59%</b>		<b>11</b>	<b>0.90%</b>		<b>21</b>	<b>1.71%</b>

<b>10 YRS</b>	<b>6565</b>	<b>2644</b>		<b>119</b>	<b>4.50%</b>		<b>22</b>	<b>0.83%</b>		<b>57</b>	<b>2.16%</b>
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**1.50%** Total individual tests over targets