LOUISIANA CRUDE OIL REFINERY SURVEY REPORT

Twelfth Edition

Louisiana Fiscal Year 2001 Survey

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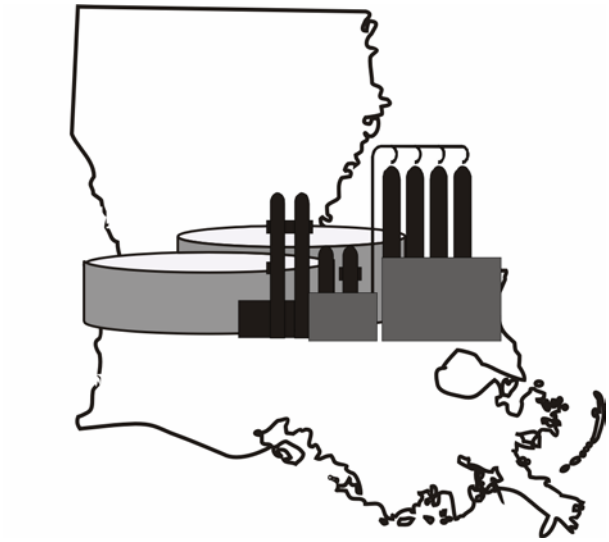
Refining, Alternative Energy & Power Systems Program



LOUISIANA DEPARTMENT OF NATURAL RESOURCES

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NON-OPERATING REFINERIES

Catalytic-cracking technology, invented at Exxon Baton Rouge in 1942,
helped win WWII. It remains an industry standard.
Photo courtesy Exxon Public Affairs.

Foreword

Since 1989 the Technology Assessment Division of the Louisiana Department of Natural Resources (DNR) has periodically conducted surveys of Louisiana crude oil refineries. The results of the survey are compiled into a report focusing on developments that have occurred since the previous survey. These include an overview of the general direction of the industry and updated information on the current status of refinery ownership, mailing addresses, operating status and key personnel. In the past, the report has focused on the source and processing of crude oil. This year, we have also taken a look at the market for the major product, gasoline. Tabulated statistical data, charts, and graphs relating to oil production, refinery crude oil sources, refinery margins, capacities, operating rates, and product slate are also presented. Information on both operating and non-operating refineries that are still intact is included. The previous survey was accomplished in September 1999 for the State's fiscal year 1999 (FY99) and published November 15, 1999.

The information contained in this annual report is designed to complement the information presented in the refinery section of the Department of Energy/Energy Information Administration (DOE/EIA) Petroleum Supply Annual, now published biennially for the previous two calendar years. Generally, the period covered by DNR is the twelve months ending June 30, so this report is ordinarily about six months out of cycle with DOE/EIA data. DNR gratefully acknowledges permission to use the latest *Oil and Gas Journal* Worldwide Refining Survey results for Louisiana refineries to provide another independent dataset for comparison, especially for those years when the DOE/EIA information is more than a year old.

The operating refining capacities, operating rates, and product slate statistics presented in this report are prepared from data supplied by survey respondents. The information on the non-operating refineries is obtained from their owners, trustees, or management personnel and is current within a few weeks of publication. The data used to construct the charts and graphs on oil production, refinery margins, and crude oil sources is obtained from DNR's database.

The principal terms and phrases used in this report are the same as those used in DOE/EIA publications. The slight difference in meaning between oper*able* and oper*ating,* when used to specify capacity or utilization rate, has caused some confusion. 'Operable" refers to the maximum amount of crude oil that a refinery can process in its atmospheric stills; 'operating' stands for the amount of crude oil actually processed. In some cases the % of Total Product Slate in Table 1 did not add up to 100. We did not change any of the numbers reported, but normalized the figures to derive the weighted totals for each product. Definitions of principal terms are located in the last section of this report.

The Department of Natural Resources uses the information in this report to enhance the economic development efforts of the State by

- Developing information on State and Federal energy policies that affect the oil and gas production and refining industries located in the State;

- Helping crude suppliers locate refining sources and refined petroleum product buyers locate sources of supply;
- Assisting new industries desiring to site facilities near refineries; and,
- Providing information to parties evaluating refineries for possible purchase.

Discussion

Overview

All refineries and refining companies are not created equal. There are small refineries and large ones. Some are quite complex, while others are relatively simple. A number are part of major, integrated oil companies, and some are independent.

Integrated oil companies are engaged in all aspects of the petroleum industry--exploring for and producing crude oil, as well as refining, transporting and marketing petroleum products.

An independent refiner, on the other hand, purchases most of its crude oil on the open market rather than producing it. Refiners such as Placid Refining Co., Calcasieu Refining, and Orion are examples of independent refiners.

Major oil companies dominate the refining industry. The top 10 U.S. refiners, all of them major, integrated oil companies, account for about 60 percent of the total domestic refinery operating capacity. Most of these have operations in Louisiana, either as wholly owned facilities such as the Baton Rouge ExxonMobil refinery or as part owners or joint ventures such as Motiva Refineries in Norco and Convent.

Many refineries are only fuels refineries, some are lube stock refineries, and others are petrochemical refineries. The Shell oil refinery in St. Rose is a good example of a petrochemical refinery. All of its products are raw feed for a chemical plant. Table 1 clearly shows the focus of the refiners in Louisiana.

Besides the level of vertical integration of a refiner and the product mix of a refinery, industry analysts also look at capacity and complexity.

A "complexity factor" is assigned to each process unit of a refinery based on its relative construction cost. The atmospheric crude distillation unit is assigned a value of one. For example, the cost of a fluidized catalytic cracker is six times greater than an atmospheric crude distillation unit of the same capacity, its unit complexity factor is six.

Greater complexity does not necessarily go hand in hand with larger capacity. Some of the smaller facilities in Louisiana are the most complex. For example, the Lube and Wax producing refineries of North Louisiana are very complex compared to the huge refinery in Baton Rouge.

The American Petroleum Institute reported that, for the first time in a decade, overall consumer petroleum product demand declined in 2001 by nearly 1 percent, with 19.587 million barrels consumed in the U.S. per day (b/d), as measured by industry deliveries. Demand for most oil products weakened during the year, except for gasoline, which showed a slight 1.4 percent rise over 2000.

Jet fuel deliveries declined 4.1 percent compared to 2000 and they declined about 15 percent just in the fourth quarter of 2001 because of the airline industry's economic malaise before, and more severely after, September 11th. Consequently, jet fuel production declined 5 percent, the largest annual decline in more than 20 years.

The U.S. refinery operating rate for 2001 was 92.7 percent, about the same as previously reported. Figure 2 shows how this value has changed over time and how it compared with the Texas gulf coast refineries and U.S. refineries as a whole.

ExxonMobil still ranks as the world's largest refiner by a healthy margin.

World Rank	Company	Crude Capacity mb/cd
1	ExxonMobil	5,308
2	Royal Dutch/Shell	3,889
3	BP PLC	3,163
4	Chevron Texaco	2,950
5	Sinopec	2,665
6	Petroleos de Venezuela	2,656
7	TotalFinaElf	2,498
8	Saudi Aramco	1,991
9	Petroleo Brasileiro	1,832
10	China Nat. Petroleum	1,763

mb/cd Thousand Barrels per Calendar Day
Taken from Oil & Gas Journal Dec 24, 2001

The ExxonMobil refinery in Baton Rouge is the 9th largest refinery in the world, with a crude capacity of 488.5 mb/cd compared to the largest Paraguana Refining Center in Falcon Venezuela, which has a capacity of 940 mb/cd. The refinery ranks second in the United States behind the ExxonMobil refinery in Baytown TX, which has a capacity of 516.5 mb/cd.

143 Refineries in the United States handle 16,040 mb/cd crude. Louisiana ranks second to Texas, with 19 refineries processing 2,704 mb/cd crude, or 16.9%, while those in Texas process 4,440 mb/cd, or 27.7%. California comes in third with 1,975 mb/cd, or 12.3%.

Merging energy companies is still the order of the day. In October 2001 Chevron and Texaco finalized their merger, which was announced late in 2000. After Phillips Petroleum acquired Tosco in September 2001, it ranked second in the U.S. and 11th in the world. Phillips now plans to merge with Conoco, which would make it the largest in the U.S. and 7th largest in the world. At the formation of Motiva, a Shell affiliate owned 35% and Texaco and Saudi Aramco affiliates each held a 32.5% interest.

The current provisional ownership percentages (effective 1/1/01) are 30% for Shell's affiliate and 35% each for the Texaco and Saudi Aramco affiliates. It was announced in the November 19, 2001 issue of Oil and Gas Journal (O&GJ) that Shell has agreed to increase its share in Motiva to 50%. Motiva operates two refineries in Louisiana, one at Convent and one in Norco.

Refinery Products

As in the past, the focus of the refinery survey report is on crude processing capabilities. This time around, some attention will be given to the products of the refineries. About 38% of crude in Louisiana is converted into motor fuels. The table below shows the other major products, based on our survey.

Product	Weighted %
Reg. Gasoline	29.1
Mid. Gr. Gasoline	0.0
Prem. Gasoline	7.3
Reformed Gasoline	4.3
Diesel	16.6
Jet/Kerosene	11.2
Fuel Oil	4.9
LPG	2.7
Naphtha	1.9
Resid/Coke	6.1

From DNR Survey

Note that the percentage for all the gasoline grades do not add up to 38%, because the numbers given in the table are a percentage of total product, and not feed. The percentages are weighted by the refineries' crude capacity, to reflect the contribution made by each refinery.

Most of Louisiana's refinery products are exported to other states. Louisiana itself consumes about 6 million gallons of gasoline per day (mmg/d). This represents only 12% of the 50 mmg/d it produces. The discovery of oil in Louisiana led to the development of Louisiana's refining and petrochemical industry. Now most of the crude is imported, and Louisiana is relegated to being a processor for other states. See table 6 and figures 7 and 8. We have changed the format of figure 7 to show the contribution made by each of the components, instead of their cumulative effect, as was previously done. Figure 7 shows that only oil brought in from other states is up over the previous year.

Louisiana is a primary energy producing state with 600 million barrels in crude reserves (1999), ranking 6th in reserves (4th including all Federal Offshore.). The state's 28,000 wells, which produce 288,000 barrels of crude per day (2000), ranked 4th in production (1st including all Federal Offshore). Its 18 refineries process roughly 2.5 mmb/d of crude into refined products, most of it imported from out of state and abroad. Besides gasoline the refineries also produces many other products that feed the petrochemical plants lining the Mississippi River.

	Gasoline	Growth Rate in %/Yr		Gasoline Sales
	Consumption mmg/d	Gasoline sales	Population	Gal/Day/Capita
U.S.	244	0.48	0.85	1.2
La.	6	-1.57	0.4	1.3
Ca.	40	0.83	1.26	1.19

From Figures 2 and 3

Figures 2 and 3 show that the U.S. as a whole shows a slight increase of 0.48%/yr in gasoline production over the last four years. Louisiana shows a 1.75 %/yr increase for the same time period. The above table shows that California had an increase in gasoline sales of 0.83 %/yr while its population grew by 1.26 %. Louisiana had a decrease of 1.57 %/yr in sales with a corresponding population increase of 0.4 %.

The Louisiana OCS territory is the most extensively developed and matured OCS territory in the U.S. Louisiana OCS territory has produced 90.5% of the 13.4 billion barrels of crude oil and condensate consumed in the U.S. from the beginning of time through the end of 2001.

The Clean Air Act Amendments of 1990 mandate the use of oxygenated gasoline in areas of high pollution. Refiners can use oxygenates such as ethanol or MTBE (methyl tertiary-butyl ether). There are two programs. The Winter Oxyfuel Program is used during cold months in cities that have high levels of carbon monoxide. Ethanol is primarily used in this program. The other program is a year-round RFG Program for cities with the worst ground level ozone problem. MTBE is used in 87% of the gasoline produced for these areas. MTBE is the preferred oxygenate outside the Midwest region because it blends more easily, has a high octane rating, has lower volatility, and can be shipped through existing pipelines. 200,000 Barrels of MTBE are produced per day (1999), most of it for blending with gasoline.

Seven refineries produced reformulated gasoline (RFG). The chart below shows those areas of the country where the use of RFG is mandated by the EPA. Currently none of those areas is in Louisiana. Our survey shows that 4.4% of the total product, or 10.5% of gasoline production, is RFG. For the nation as a whole, about 30% of the gasoline is reformulated. The five-parish Baton Rouge metropolitan statistical area may soon be forced to comply with high ground-level ozone mandates. Ozone is produced when oxides of nitrogen (NOx) and volatile organic compounds (VOC) react with sunlight. It has been reported that only16.8% of NOx and 14% of VOC comes from mobile sources, so requiring the use of RFG in the Baton Rouge area would do little to alleviate the high ozone levels.

However, the future of MTBE as an oxygenate is uncertain. Leaks and spills of gasoline have resulted in drinking water contamination in excess of 5 ppb, a level at which it imparts an unpleasant odor and taste. It was feared that the extremely water-soluble MTBE would spread too easily and that it might be carcinogenic. Other states are expected to follow California's lead banning MTBE, and the U.S. Congress is considering legislation to phase out use of this oxygenate. Other oxygenates, such as tertiary amyl methyl ether and ethyl tertiary butyl ether, will likely suffer from the same concerns as MTBE. But one industry's loss is another's gain. Ethanol is seen as the "most likely replacement" for MTBE in reformulated gasoline.

Figure 2

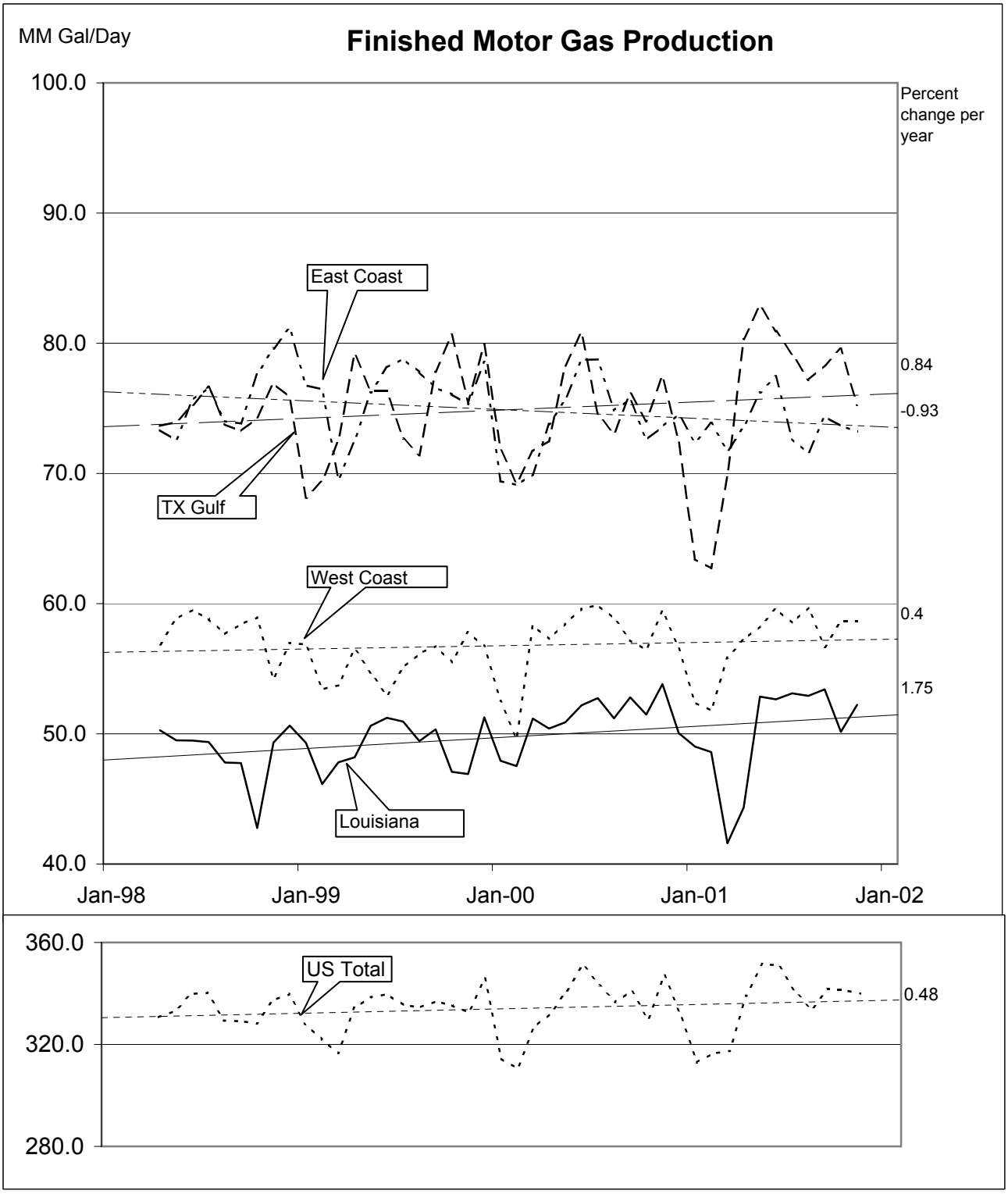
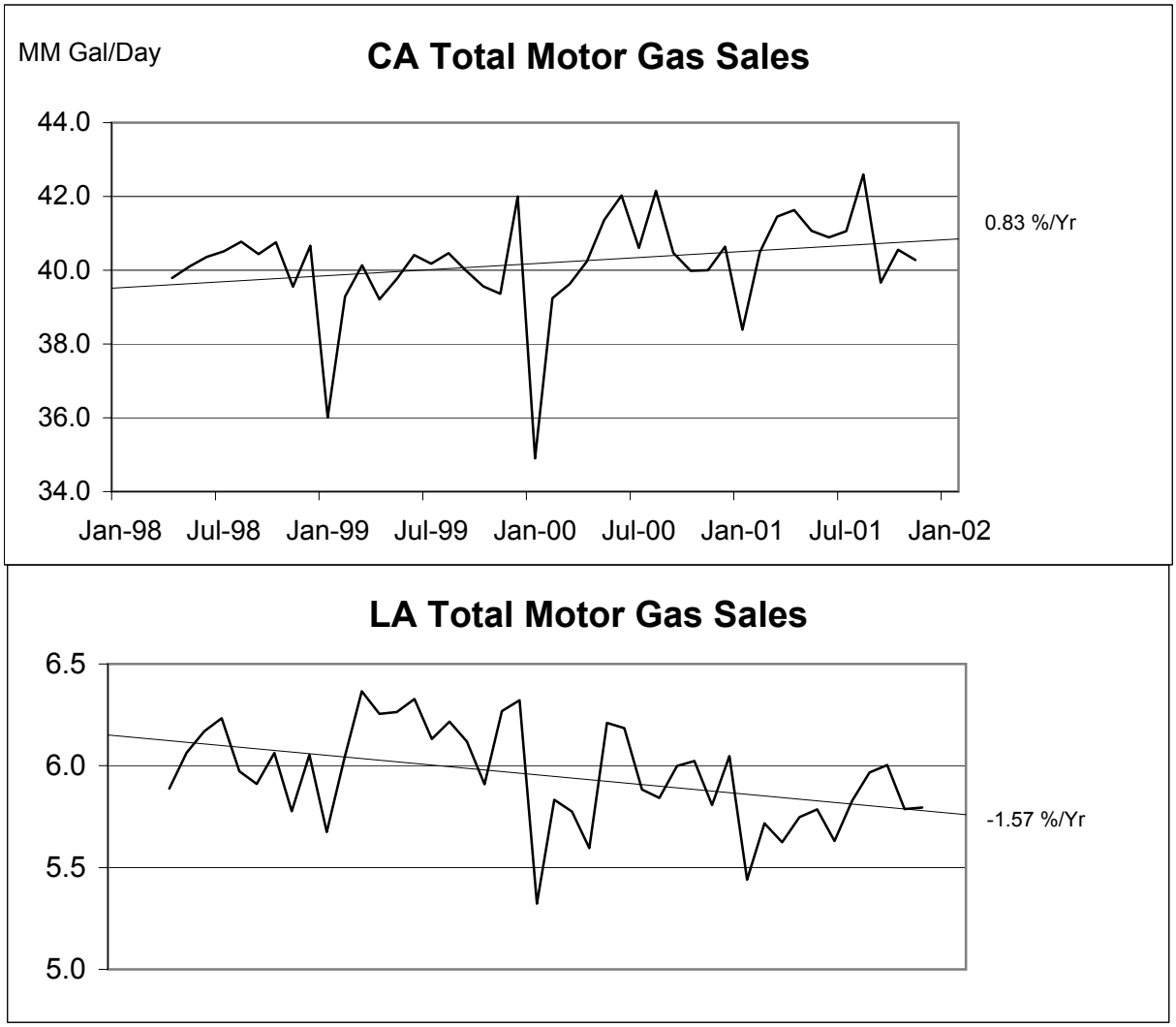
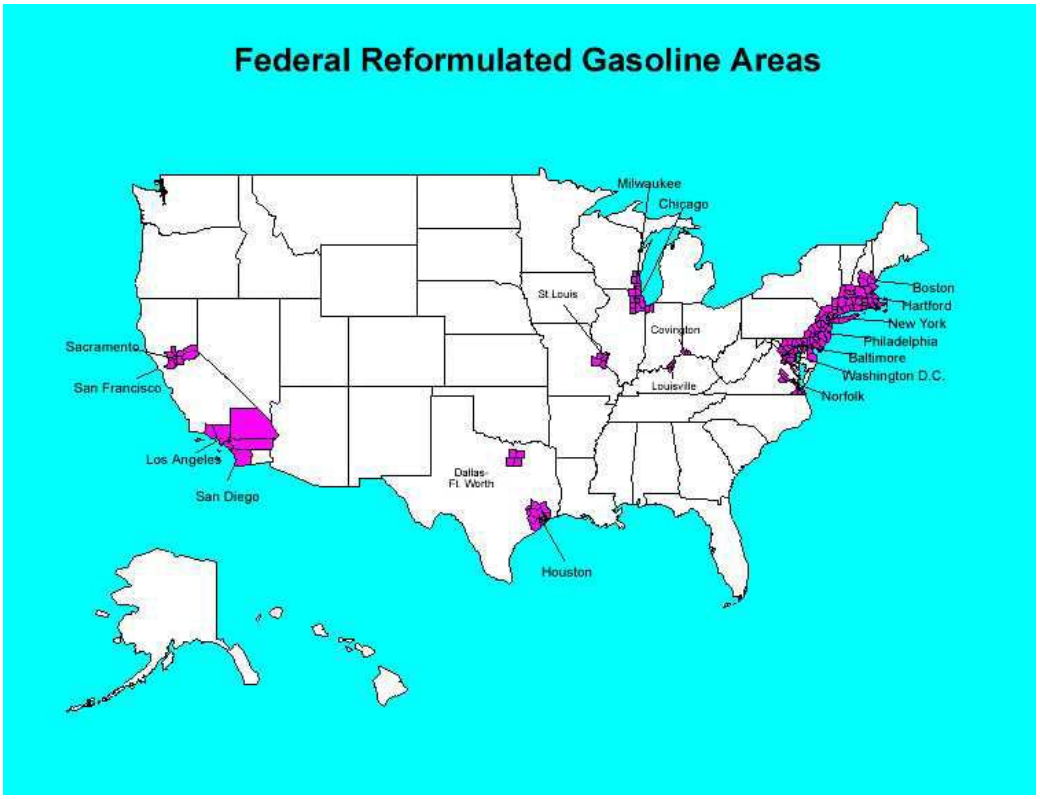

MM Gal/Day
Finished Motor Gas Production
100.0
90.0
80.0
70.0
60.0
50.0
40.0
Percent change per year
East Coast
TX Gulf
West Coast
Louisiana
0.84
-0.93
0.4
1.75
Jan-98
Jan-99
Jan-00
Jan-01
Jan-02
360.0
320.0
280.0
US Total
0.48

Figure 3


MM Gal/Day
CA Total Motor Gas Sales
44.0
42.0
40.0
38.0
36.0
34.0
Jan-98
Jul-98
Jan-99
Jul-99
Jan-00
Jul-00
Jan-01
Jul-01
Jan-02
0.83 %/Yr
LA Total Motor Gas Sales
6.5
6.0
5.5
5.0
-1.57 %/Yr

Thus, it is expected to be the most promising fuel additive and growth is forecast to reach 10%/yr to $2.4 billion in 2004 on a nation-wide basis. Demand for specialty fuel additives is expected to rise 6.6%/yr to $1.5 billion in 2004. This growth will be spurred by new opportunities for additives in areas such as controlling and modifying combustion chamber deposits and engine emissions.



From http://www.epa.gov/otaq/rfgmap.jpg

Figure 9 shows the Wright Killen Gulf Coast Refinery Margins taken from the Oil & Gas Journal over time. However in1999 the Oil & Gas Journal switched to using the Refinery Margin data from Muse, Stancil & Co. We have plotted both sources, and although they trend similarly, the absolute values are different because of different assumptions about refinery operations.

Wright Killen refining margins are gross cash margins before depreciation, taxes, and financial charges, based on actual refinery yields and crude oil and wholesale products prices. Wright Killen estimates fixed costs-excluding most corporate expenses for such activities as research and development-and variable costs based on regional refinery configurations.

Details about the methodology used by Muse Stancil are explained in the Oil & Gas Journal dated January 15, 2001

Recent Changes

Calumet Refining bought the Pennzoil-Quaker State facility in Shreveport. Because of the merger of Exxon and Mobil Oil, the refinery in Baton Rouge was renamed the ExxonMobil refinery. Phillips Petroleum bought the B.P. Amoco facility in Belle Chasse, which may soon be known as the ConocoPhillips refinery.

Operating Refineries

Operating capacity for Louisiana refineries has increased by 1.52% since our last survey. The biggest gainers where Orion, with 40.91% and Calcasieu refining, with 43.79%. Actual throughput also increased by almost 3% since our last survey. The biggest gainers here were Orion, with 71.2% and Calcasieu refining, with 32.3%. The biggest contributors to the overall state increase of 26.5 MM barrels in the 12-month refining throughput were Orion and ExxonMobil refining.

Table 1 shows the details of operating capacity and 12 month throughput. Figure 3 shows the change in Louisiana operating capacity over the last 50 years as compared with the U.S. as a whole.

Non Operating refineries

There was no change to the El Paso Field Services facility at Dubach, which consists of a crude oil refinery and a gas liquids fractionating plant. The refinery remains shut down. The gas plant is operating, although the liquids fractionating unit was shut down in January 1998.

The Canal Refining Co. facility at Church Point is still not operating for inclusion in this report. However, the refinery expects to restart in early 2002 after completing extensive maintenance and process projects that are expected to result in a capacity increase.

The Jennings refinery that was last operated by Gold Line remains shut down since February 1998. The owner of this facility desires to sell or lease the facility.

At Lisbon, the refinery remains shut down since July 1997 and is to be dismantled. It will never operate as a refinery again.

Ergon St. James, LLC operates eight storage tanks with 350,000 barrels capacity, which it bought from La. Jet Corp. Docking facilities and pipeline access are controlled by Koch Petroleum Group, LP on adjacent property. The remains of a refinery still stand a few miles down the road.

The Quantum Fuel and Refining Co. facility at Egan, formerly known as U.S. Refining Co., did not produce during this period. Plans are to start up early in 2002 to produce mostly Diesel fuel.

Quantum Fuel & Refining in Garyville shut down the refinery part of its plant in 1987. Most of the equipment has been dismantled and the tank farm is now used for storing and blending of No. 6 fuel oil.

Table 1

Operating Refineries Changes in Capacity

REFINERY NAME	Previous Operating Capacity (BCD)	Capacity Change	Previous 12-Month Throughput (Barrels)	Throughput Change	Refinery Capacity Change	Refinery Throughput Change	Contribution to State Change in Throughput
American International Refinery, Inc	35,000	0	352,357	797,299	0.00%	226.28%	3.00%
Calcasieu Refining Co.	15,300	6,700	5,539,344	1,789,980	43.79%	32.31%	6.75%
Calumet Lubricants - Cotton Valley	7,700	800	2,512,484	3,173	10.39%	0.13%	0.01%
Calumet Lubricants - Princeton	7,638	-1,090	2,447,335	-255,218	-14.27%	-10.43%	-0.96%
Calumet Lubricants - Shreveport	46,200	-38,200	15,613,605	-15,607,291	-82.68%	-99.96%	-58.81%
Chalmette Refining, LLC	180,500	9,700	64,970,000	4,453,000	5.37%	6.85%	16.78%
Citgo Petroleum Corp.	320,000	18,000	113,339,646	3,250,158	5.63%	2.87%	12.25%
Conoco, Inc. - Lake Charles	250,000	-14,000	85,068,473	-9,912,826	-5.60%	-11.65%	-37.35%
ExxonMobil Co. USA	470,000	15,000	158,300,500	16,492,400	3.19%	10.42%	62.15%
Marathon Ashland Petroleum, LLC	255,000	0	82,682,649	5,681,026	0.00%	6.87%	21.41%
Motiva Enterprises, LLC - Convent	225,000	0	84,548,300	-1,889,814	0.00%	-2.24%	-7.12%
Motiva Enterprises, LLC - Norco	235,000	-5,000	82,728,171	194,594	-2.13%	0.24%	0.73%
Murphy Oil USA, Inc.	101,000	9,000	33,172,463	5,006,537	8.91%	15.09%	18.87%
Orion Refining Corp.	110,000	45,000	26,619,224	19,110,717	40.91%	71.79%	72.01%
Phillips Petroleum Co. Belle Chasse	254,500	-4,500	83,840,553	-1,336,553	-1.77%	-1.59%	-5.04%
Placid Refining Co.	49,000	500	17,682,810	296,509	1.02%	1.68%	1.12%
Shell Chemical Co. - St. Rose	55,000	-1,000	16,000,000	1,373,002	-1.82%	8.58%	5.17%
Valero Refining Co. - La.	78,000	0	23,556,040	-2,909,214	0.00%	-12.35%	-10.96%
Totals	2,694,838	40,910	898,973,954	26,537,479	1.52%	2.95%	

Previous Operating Capacity (BCD) and previous 12-month Throughput (Barrels) are from the last DNR refinery survey published November 15 1999. These numbers are compaired with the numbers in the current survey, to determine the change in capacity and Throughput since our last survey. We have also taken a look at the effect of the change in Throughput on the state as a whole.

Shepherd Oil Ethanol plant distillation towers, taken in Feb 93

Camaron Resources Refinery, taken in Feb 93

Tina Resources, Inc. at Cameron did not respond to the current survey. According to the latest information, which was received over three years ago, the refinery is shut down and up for sale.

The identity and location of each of the non-operating refineries is shown on the map of Figure 1. Mailing addresses and contacts are listed in Table 9. Physical locations, last known crude capacity, date last operated, and present status are described in Table 10.

Definitions

(For use with this La. Dept. of Natural Resources Refinery Survey)

Mostly from: DOE/EIA—109(2001/10), Petroleum Supply Monthly, October 2001

Barrels per calendar day - The amount of input that a distillation facility can process under usual operating conditions. The amount is expressed in terms of capacity during a 24-hour period and reduces the maximum processing capability of all units at the facility under continuous operation (see Barrels per Stream Day) to account for the following limitations that may delay, interrupt, or slow down production:

> the capability of downstream facilities to absorb the output of crude oil processing facilities of a given refinery. No reduction is made when a planned distribution of intermediate streams through other than downstream facilities is part of a refinery's normal operation;
>
> the types and grades of inputs to be processed;
>
> the types and grades of products expected to be manufactured;
>
> the environmental constraints associated with refinery operations;
>
> the reduction of capacity for scheduled downtime due to such conditions as routine inspection, maintenance, repairs, and turnaround; and
>
> the reduction of capacity for unscheduled downtime due to such conditions as mechanical problems, repairs, and slowdowns.

Barrels per stream day - The maximum number of barrels of input that a distillation facility can process within a 24-hour period when running at full capacity under optimal crude oil and product slate conditions with no allowance for downtime.

Charge Capacity - The input (feed) capacity of the refinery processing facilities.

Idle capacity - The component of oper*able* capacity that is not in operation and not under active repair, but capable of being placed in operation within 30 days; and capacity not in operation but under active repair that can be completed within 90 days.

Operable capacity - The amount of capacity that, at the beginning of the period, is in operation; not in operation and not under active repair, but capable of being placed in operation within 30 days; or not in operation but under active repair that can be completed within 90 days. Operable capacity is the sum of the operating and idle capacity and is measured in barrels per calendar day or barrels per stream day. *Note: This survey uses the capacity at the **end** of the period (September, 30 2001)*

Operating capacity - The component of operable capacity that is in operation at the beginning of the period. *Note: This survey uses the capacity at the **end** of the period (September, 30 2001)*

Operable utilization rate - Represents the utilization of the atmospheric crude oil distillation units. The rate is calculated by dividing the gross input to these units by the operable refining capacity of the units.

Operating utilization rate - Represents the utilization of the atmospheric crude oil distillation units. The rate is calculated by dividing the gross input to these units by the operating refining capacity of the units.

Throughput – Is the actual barrels of crude oil processed by the atmospheric stills for the time period October 1 2000 through September 30 2001.

Operating Rate % - Throughput divided by 365 divided by operating capacity expressed as a percentage.

Operable Rate % - Throughput divided by 365 divided by operable capacity expressed as a percentage.

TABLE 2

LOUISIANA OPERATING REFINERIES

CRUDE CAPACITY (BCD) AND PERCENT PRODUCT SLATE

December 2001 DNR Survey

Data in this table may differ from data reported elsewhere for a different time period.

REFINERY NAME	DNR FAC. CODE	OPERATING CAPACITY on Sept. 30, 2001 (BCD)	OPERATING RATE %	IDLE CAP. (BCD)	OPERABLE RATE %	THROUGHPUT October 1 2000 - Sept. 30 2001 (Barrels)
American International Refinery, Inc. - Lake Charles Note 1	**LKC**	35,000	9.0		9.0	1,149,656
Calcasieu Refining Co. - Lake Charles	**CLC**	22,000	91.3		91.3	7,329,324
Calumet Lubricants - Cotton Valley	**CTT**	8,500	81.1	2,500	62.7	2,515,657
Calumet Lubricants - Princeton	**CLM**	6,548	91.7	1,752	72.4	2,192,117
Calumet Lubricants - Shreveport Note 1	**ATL**	8,000	0.2		0.2	6,314
Chalmette Refining, LLC - Chalmette	**TNN**	190,200	100.0		100.0	69,423,000
Citgo Petroleum Corp. - Lake Charles	**CTS**	338,000	94.5		94.5	116,589,804
Conoco, Inc. - West Lake	**CNB**	236,000	87.2		87.2	75,155,647
ExxonMobil Co. USA - Baton Rouge	**EXX**	485,000	98.7		98.7	174,792,900
Marathon Ashland Petroleum, LLC - Garyville	**MRT**	255,000	94.9		94.9	88,363,675
Motiva Enterprises, LLC - Convent	**TXC**	225,000	100.6		100.6	82,658,486
Motiva Enterprises, LLC - Norco	**SHL**	230,000	98.8		98.8	82,922,765
Murphy Oil USA, Inc. - Meraux	**MRP**	110,000	95.1		95.1	38,179,000
Orion Refining Corp. - Norco	**GDH**	155,000	80.8	29,712	67.8	45,729,941
Phillips Petroleum Co. - Belle Chasse	**STN**	250,000	90.4		90.4	82,504,000
Placid Refining Co. - Port Allen	**PLC**	49,500	99.5	0	99.5	17,979,319
Shell Chemical Co. - St. Rose	**INT**	54,000	88.1		88.1	17,373,002
Valero Refining Co. - Krotz Spings	**HLL**	78,000	72.5		72.5	20,646,826
WEIGHTED STATE AVERAGE (%)			92.7		91.4	
TOTAL LA. OPERATING CAPACITY		2,735,748		33,964		925,511,433

Footnotes and Definitions are on page 14 and 15

TABLE 2 (continued)

LOUISIANA OPERATING REFINERIES

CRUDE CAPACITY (BCD) AND PERCENT PRODUCT SLATE

December 2001 DNR Survey

Data in this table may differ from data reported elsewhere for a different time period.

DNR FAC. CODE	% OF TOTAL PRODUCT SLATE													
	GASOLINE				OTHER FUELS			MISCELLANEOUS			OTHER PRODUCTS			
	REG	MID-GRADE	PREM	ALL RFG	DIESEL	JET/ KERO	FUEL OIL	LPGs	NAPTH	Residual/ COKE	PRODUCT 1	PRODUCT 2	PRODUCT 3	ALL OTHER
LKC					16.0 Feedstock				13.0 Feedstock		23.0 HVGO	48.0 Asphalt		
CLC					29.33	15.64	23.86	6.6	23.94					
CTT					0.4				58.0		24.6 Gas Oil	16.2 Lt. Str. Run	0.8 Butane Pentane	
CLM					8				2		72.0 Lube Oil	18.0 Asphalt		
ATL					3.1					4.1	42.7 Lubes	4.7 Waxes	17.4 Intermediate Dist	
TNN	38.7		5.77	1	23.95	8.8	1.86	7.0	0.4	11	4.3 Aromatics	0.50 Sulfur		
CTS	29.4		12	4.74		17.59				12	1.9 Decant oil	3.0 Propane/ Propylene	15.7 LSD & HSD	3.7 Other
CNB	28		5	1	27	15	2	1		8	11.0 Gas oil	2.0 Propane/ Propylene		
EXX	19.6		5.9	12.6	16.5	10.9	2.7	2.1	1.0	4.1	17.9 PetChem Fdstk	Gas Oil	2.6 Lubes/ Waxes	4.1 Sulfur, etc. (Note B)
MRT	42.3		6.26	1.46		2.16	18.03	6.76	0.5	10.49	2.55 Dry Gas	8.73 Asphalt	0.43 Sulfur	0.4 Alkylate
TXC	35.0		3	5	25	11	13	2			4.0 Fuel Gas	2.0 Propylene		
SHL	37.6		17.74	6.29	16.46	13.28	1.87	0.84	2.25	1.46	0.8 MTBE	0.1 Sulphur	1.2 SRGO	
MRP	32		11		29	8	13	2			4.0 Butane	1.0 Asphaltene		
GDH	16				19.78	6.41	4.57	5.29	13.42	10.62	6.7 LCO	17.2 VGO		
STN	26		9.2		28.0	12.5 (JET)	0.5	4.6	1	3.7	1.7 FCC Charge	Normal Butane	5.2 Petro chemicals	3.6
PLC	45.5	0	2	0	25.2	11.3		0.4	0.4	5.9	3.8 Subgrade Gasoline	4.0 Propylene Ref. Grade	Gas Oil	3.3 Fuel Gas
INT						7.0				13.0	80.0 Olefin Plant Feed			
HLL	30.5		1.5		13.3	16.5		0.8	12.1		25.0 VBO	0.4 Gas Oil		
Wtd %	29.1	0.0	7.3	4.3	16.6	11.2	4.9	2.7	1.9	6.1				

Footnotes and Definitions are on page 14 and 15

Details of Other Products from Table 2

Product	BBLs Produced	% of Total
Asphalt	8,660,862	0.936
Asphaltene	381,790	0.041
HVGO	264,421	0.029
Lubes, Waxes	6,125,636	0.662
FCC Charge	1,402,568	0.152
Intermediate Dist	1,099	0.000
LSD & HSD	18,316,258	1.980
MTBE	638,505	0.069
Lt. Str. Run	407,536	0.044
Gas Oil	8,968,560	0.969
Decant oil	2,226,865	0.241
Subgrade Gasoline	683,214	0.074
SRGO	986,781	0.107
Alkylate	326,946	0.035
Aromatics	2,957,420	0.320
Butane Pentane	20,125	0.002
Propylene/Propane	7,349,832	0.794
Normal Butane	1,527,160	0.165
VBO	5,161,707	0.558
LCO	3,054,760	0.330
VGO	7,874,696	0.851
Dry Gas	2,253,274	0.244
Fuel Gas	3,899,657	0.421
Olefin Plant Feed	13,898,402	1.502
Sulfur	826,586	0.089
Sulfur, etc. (Note B)	7,166,509	0.775
Petrochemicals	4,290,208	0.464
Petrochemical Feedstocks	31,287,929	3.381
Other	7,307,285	0.790
Totals	148,266,589	16.0237

TABLE 3
U.S. DEPARTMENT OF ENERGY
CAPACITY OF LOUISIANA OPERABLE PETROLEUM REFINERIES AS OF January, 1 2001

(Barrels per Stream Day, Except Where Noted)

REFINERY NAME	DNR FAC. CODE	Atmospheric Crude Oil Distillation				Downstream Charge Capacity				
		Barrels per Calender Day		Barrels per Stream Day		Vacuum Distillation	Thermal Cracking			
		Operating	Idle	Operating	Idle		Delayed Coking	Fluid Coking	Vis-Breaking	Other/ Gas Oil
American International Refinery, Inc. - Lake Charles Note 21	**LKC**									
Calcasieu Refining Co. - Lake Charles	**CLC**	21,400	0	22,000	0	0	0	0	0	0
Calumet Lubricants - Cotton Valley	**CTT**	7,800	0	8,500	0	0	0	0	0	0
Calumet Lubricants Princeton	**CLM**	8,300	0	8,655	0	7,000	0	0	0	0
Calumet Lubricants - Shreveport	**ATL**	46,200	0	50,000	0	24,300	0	0	0	0
Chalmette Refining, LLC - Chalmette	**TNN**	182,500	0	190,200	0	106,000	0	0	0	0
Citgo Petroleum Corp. - Lake Charles	**CTS**	316,000	0	333,000	0	84,000	0	0	0	0
Conoco, Inc. - West Lake	**CNB**	245,000	0	255,000	0	202,000	0	0	0	12,000
ExxonMobil Co. USA - Baton Rouge	**EXX**	485,000	0	505,000	0	229,500	0	0	0	0
Marathon Ashland Petroleum, LLC - Garyville	**MRT**	232,000	0	249,000	0	125,000	0	0	0	0
Motiva Enterprises, LLC - Convent	**TXC**	225,000	0	235,000	0	119,400	0	0	13,000	0
Motiva Enterprises, LLC - Norco	**SHL**	228,000	0	240,000	0	80,000	0	0	0	0
Murphy Oil USA, Inc. - Meraux	**MRP**	95,000	0	110,000	0	50,000	0	0	0	0
Orion Refining Corp. - Norco	**GDH**	148,500	0	155,000	0	105,000	0	0	0	0
Phillips Petroleum Co. Belle Chasse	**STN**	250,000	0	250,000	0	92,000	25,500	0	0	0
Placid Refining Co. - Port Allen	**PLC**	48,500	0	49,500	0	20,000	0	0	0	0
Shell Chemical Co. - St. Rose	**INT**	55,000	0	56,000	0	28,000	0	0	0	0
Valero Refining Co. - Krotz Springs	**HLL**	78,000	0	80,000	0	31,800	0	0	0	0
LOUISIANA TOTALS		2,672,200	0	2,796,855	0	1,304,000	25,500	0	13,000	12,000

Note 21 Not included in DOE source data Table 38

Source: Energy Information Administration Petroleum Supply Annual 2000 Vol 1, Table 38 DOE/EIA-0340(2000)/1 June 2001

TABLE 3 (Continued)
U.S. DEPARTMENT OF ENERGY
CAPACITY OF LOUISIANA OPERABLE PETROLEUM REFINERIES AS OF January 1, 2001

(Barrels per Stream Day, Except Where Noted)

DNR FAC. CODE	Downstream Charge Capacity (Continued)									
	Catalytic Cracking		Catalytic Hyrocracking	Catalytic Reforming		Catalytic Hydrotreating				Fuel Solvents Deaphalting
	Fresh	Recycled		Low Pressure	High Pressuer	Heavy Gas Oil	Naphtha Reformer Feed	Distillate	Other Residual	
LKC										
CLC	0	0	0	0	0	0	0	0	0	0
CTT	0	0	0	0	0	0	3,600	0	0	0
CLM	0	0	0	0	0	0	0	0	8,500	0
ATL	3,500	7,000	0	10,000	0	8,900	10,000	10,000	1,200	0
TNN	71,600	0	20,000	18,900	29,400	45,000	40,000	29,900	0	0
CTS	142,000	0	42,000	98,000	18,000	72,000	124,000	34,500	44,300	0
CNB	51,000	0	28,000	48,000	0	0	52,700	136,500	13,000	0
EXX	232,000	0	25,000	72,000	0	0	152,000	90,000	69,800	0
MRT	115,000	0	0	48,000	0	101,000	50,000	65,000	0	36,000
TXC	92,000	0	52,000	0	40,000	27,600	41,000	100,800	0	0
SHL	112,000	0	34,000	40,000	22,000	0	38,500	45,000	0	0
MRP	38,000	0	0	18,000	0	27,500	22,000	15,000	0	0
GDH	80,000	0	0	0	0	32,000	35,000	37,000	10,000	0
STN	100,000	2,000	0	0	44,600	0	48,000	71,000	0	0
PLC	19,000	2,000	0	10,000	0	0	12,000	0	0	5,000
INT	0	0	0	0	0	0	0	0	0	0
HLL	31,700	0	0	0	13,000	0	14,000	0	0	0
	1,087,800	11,000	201,000	362,900	167,000	314,000	642,800	634,700	146,800	41,000

TABLE 4
U.S. DEPARTMENT OF ENERGY
PRODUCTION CAPACITY OF LOUISIANA OPERABLE PETROLEUM REFINERIES AS OF January 1 2001

(Barrels per Stream Day)

REFINERY NAME	DNR FAC. CODE	Production Capacity								
					Isomers					
		Alkylates	Aromaics	Asphalt and Road Oil	Isobutane	Isopentane and Isohexane	Lubricants	Marketable Petroleum Cale	Hydrogen (MMcfd)	Sulfur (short tons per day)
American International Refinery, Inc. - Lake Charles Note 31	**LKC**									
Calcasieu Refining Co. - Lake Charles	**CLC**	0	0	0	1,200	0	0	0	0	0
Calumet Lubricants - Cotton Valley Note 31	**CTT**									
Calumet Lubricants - Princeton	**CLM**	0	0	2,000	0	0	7,000	0	5	3
Calumet Lubricants - Shreveport	**ATL**	4,500	0	600	4,200	0	9,100	0	6	33
Chalmette Refining, LLC - Chalmette	**TNN**	13,100	10,200	0	10,000	10,000	0	11,000	0	505
Citgo Petroleum Corp. - Lake Charles	**CTS**	22,000	4,000	0	0	28,000	9,600	24,000	0	640
Conoco, Inc. - West Lake	**CNB**	8,000	0	0	0	0	1,800	18,250	0	810
ExxonMobil Co. USA - Baton Rouge	**EXX**	35,900	0	0	0	0	16,000	27,042	24	744
Marathon Ashland Petroleum, LLC - Garyville	**MRT**	31,000	0	42,000	23,000	20,000	0	0	0	526
Motiva Enterprises, LLC - Convent	**TXC**	16,500	0	0	0	12,500	0	0	63	728
Motiva Enterprises, LLC - Norco	**SHL**	164,000	0	0	0	0	0	1,000	60	165
Murphy Oil USA, Inc. - Meraux	**MRP**	8,500	0	18,000	0	0	0	0	0	70
Orion Refining Corp. - Norco	**GDH**	12,800	0	0	0	0	0	21,000	0	410
Phillips Petroleum Co. Belle Chasse	**STN**	38,000	12,300	0	0	0	0	5,289	1	125
Placid Refining Co. - Port Allen	**PLC**	40,000	0	0	0	0	0	0	0	8
Shell Chemical Co. - St. Rose Note 31	**INT**									
Valero Refining Co. - Krotz Springs	**HLL**	0	0	0	2,700	800	0	0	0	10
LOUISIANA TOTALS		394,300	26,500	62,600	41,100	71,300	43,500	107,581	159	4,777

MMcfd = Million cubic feet per day

Note 31 Not included in DOE source data Table 39

Source: Energy Information Administration Petroleum Supply Annual 2000 Vol 1, Table 39 DOE/EIA-0340(2000)/1 June 2001

Table 5
OIL AND GAS JOURNAL 2001 WORLDWIDE REFINERY SURVEY
Capacities of Louisiana refineries as of January 1, 2002

Reprinted with permission. *Oil and Gas Journal*, Vol 99, No. 52, December 24, 2001: pp 117 118

REFINERY NAME	DNR FAC. CODE	Charge Capacity, Barrels per Calendar Day							
		Crude	Vacuum Distillation	Coking	Thermal Operation	Catalytic Cracking	Catalytic Reforming	Cat Hydro-cracking	Cat Hydro-treating
American International Refinery, Inc. - Lake Charles	**LKC**	30,000	15,000						
Calcasieu Refining Co. - Lake Charles	**CLC**	15,680							
Calumet Lubricants - Cotton Valley	**CTT**	8,500							[13]4,000
Calumet Lubricants - Princeton	**CLM**	9,500	8,500					[4]8,000	
Calumet Lubricants - Shreveport	**ATL**	15,000	10,000					[C4]7,200	[13]1,100
Canal Refining Co. - Church Point	CNL	30,000	6,000				[1]6,000	[1]6,000	[1]6,000
Chalmette Refining, LLC - Chalmette	**TNN**	182,500	102,000	[2]31,500		[1]68,000	[1]28,000 [3]18,000	[C1]18,500	[1]39,500 29,000 55,500
Cit-Con - Lake Charles			36,100						
Citgo Petroleum Corp. - Lake Charles	**CTS**	321,100	79,800	[2]88,200		[1]126,000	[1]45,900 [3]57,600	[C1]34,200	[1]103,500 [2]6,300 [4]22,950 [5]32,400 [8]64,800
Conoco, Inc. - West Lake	**CNB**	245,000	163,000	[2]65,000	[1]11,300	[1]48,000	[3]45,200	[C3]29,000	[1]46,700 [2]11,200 33,600 [7]37,800 [8]48,500
ExxonMobil Co. USA - Baton Rouge	**EXX**	488,500	220,500	[2]107,000		[1]221,500	[2]72,000	[C1]23,000	[1]103,000 [7]85,500 [11]22,500 [12]48,500 [13]44,000
Marathon Ashland Petroleum, LLC - Garyville	**MRT**	232,000	118,800			[1]104,500	[3]42,800		[1]43,700 49,400 [8]88,400
Motiva Enterprises, LLC - Convent	**TXC**	225,000	100,000		[2]12,000	[1]85,000	[1]36,000	[C2]45,000	[1]40,000 [4]25,000 [5]63,000 [8]34,000
Motiva Enterprises, LLC - Norco	**SHL**	220,000	78,000	[2]21,300		[1]105,000	[1]19,100 [2]38,200	[C1]31,500	[1]38,000 [5]35,300
Murphy Oil USA, Inc. - Meraux	**MRP**	95,000	47,500			[1]34,200			[1]19,800 13,500 [13]24,750
Orion Refining Corp. - Norco	**GDH**	155,000	124,000	[2]75,000		[1]85,000	[1]12,000		[1]30,000 [7]30,000 30,000
Phillips Petroleum Co. Belle Chasse	**STN**	250,000	92,000	[2]25,200		[1]104,000	[1]42,000		[2]47,000 [4]30,000 [7]35,000
Placid Refining Co. - Port Allen	**PLC**	48,000	20,000			[1]19,000	[1]9,700		[2]9,700 [7]12,000
Shell Chemical Co. - St. Rose	**INT**	55,000	29,000						
Valero Refining Co. - Krotz Springs	**HLL**	78,000	29,500			[1]31,000	[1]13,000		[1]14,000 [10]3,250
LOUISIANA TOTALS		2,703,780	1,279,700	413,200	23,300	1,031,200	485,500	202,400	1,562,150

Legend to numbers in table are on page 24

Table 5 (Continued)
OIL AND GAS JOURNAL 2001 WORLDWIDE REFINERY SURVEY
Capacities of Louisiana refineries as of January 1, 2002

DNR FAC. COD	Production Capacity, Barrels per Calendar Day									
	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (tonnes per day)	Sulfur	Asphalt
LKC										880
CLC										
CTT							[a][1]2.5 [4]2.5			
CLM					7,000		[a][1]4.5 [4]4.5		3	
ATL					7,000		[a][1]6.1 [4]6.1		15	
TNN	[2]12,500		[1]10,000	[3]9,500			[4]5.0	2,050	695	
CTS	[1]20,700		[1]6,480	[3]28,800	8,550	[1]3,150 [3]4,140	[a][1]53.0 [b]12.0	3,600	617	
CNB					8,500		[4]110.0	3,800	363	
EXX	[1]35,000	[1]9,000			16,000	[1]7,000	[4]12.0 [b]12.0	5,000	675	
MRT	[2]28,500			[1]21,900 [3]17,100					460	39,900
TXC	[1]13,050	[2]3,600		[3]11,250		[1]2,250 [3]2,500	[a][3]58.0		700	
SHL	[1]14,800					[1]7,500	[1]49.4	900	140	
MRP	[2]7,650								120	
GDH								4,110	290	
STN	[2]38,000		[1]12,400 [2]5,400				[1]10.4	800	70	
PLC	[2]3,800								28	
INT										
HLL		[1]2,100		[3]3,000						
Totals	174,000	14,700	34,280	91,550	47,050	26,540	348	20,260	4,176	40,780

Legend to numbers in table are on page 24

LEGEND - Numbers identify processes in table 5

Coking
1. Fluid coking
2. Delayed coking
3. Other

Thermal Processes
1. Thermal cracking
2. Visbreaking

Catalytic Cracking
1. Fluid
2. Other

Catalytic Reforming
1. Semiregenerative
2. Cyclic
3. Continuous regen.
4. Other

Catalytic Hydrocracking
1. Distillate upgrading
2. Residual upgrading
3. Lube oil manufacturing
4. Other

c. Conventional (high-pressure) hydrocracking: (>100 barg or 1,450 psig)

m. Mild to moderate hydrocracking: (<100 barg or 1,450 psig)

Catalytic Hydrorefining
1. Residual desulfurization
2. Heavy gas oil desulfurization
3. Catalytic cracker and cycle stock treatment
4. Mid distillate
5. Other

Catalytic Hydrotreating
1. Pretreating cat reformer feeds
2. Naptha desulfurizing
3. Naptha olefin or aromatics saturation
4. Straight-run distillate
5. Pretreating cat cracker feeds
6. Other distillates
7. Lube oil "polishing"
8. Other

Alkylation
1. Sulfuric acid
2. Hydrofluoric acid

Polymerization/Dimerization
1. Polymerization
2. Dimerization

Aromatics
1. BTX
2. Hydrodealkylation
3. Cyclohexane
4. Cumene

Isomerization
1. C_4 feed
2. C_5 feed
3. C_5 and C_6 feed

Oxygenates
1. MTBE
2. ETBE
3. TAME
4. Other

Hydrogen

Production:
1. Steam methane reforming
2. Steam naptha reforming
3. Partial oxidation

a. Third-party plant

Recovery:
4. Pressure swing adsorption
5. Cryogenic
6. Membrane
7. Other

FOOTNOTES

Capacity expressed in barrels per calendar day (b/cd) is the maximum number of barrels of input that can be processed during a 24-hr period, after making allowances for the following:

I. Types and grades of inputs to be processed.
II. Types and grades of products to be manufactured.
III. Environmental constraints associated with refinery operations.
IV. Scheduled downtime such as mechanical problems, repairs, and slowdowns.

Capacity expressed in barrels per stream day (b/sd) is the amount a unit can process when running at full capacity under optimal feedstock and product slate conditions. Most U.S. capacity figures have historically been reported in b/sd, but all capacities are reported in b/cd here, as they will be in following years.

Totals

When an asterisk (*) appears beside a refinery locaiton, this indicates that the figure has been converted from b/sd to b/cd by using the conversion factor 0.95 for crude oil and vacuum distillation units, and 0.90 for all downstream cracking and conversion units. Refining processes not covered are noted here.

Process definitions

V. Hydrocracking includes processes where 50% of the feed or more is reduced in molecular size.
VI. Hydrorefining includes processes where 10% of the feed or less is reduced in molecular size.
VII. Hydrotreating includes processes where essentially no reduction in the molecular size of the feed occurs.
VIII. Hydrogen volumes presented here represent either generation or upgrading to 90+% purity.

Catalytic reforming definitions

IX. Semiregenerative reforming is characterized by shutdown of the reforming unit at specified intervals, or at the operator's convenience, for in situ catalyst regeneration.
X. Cyclic regeneration reforming is characterized by continuous or continual regeneration of catalyst in situ in any one of several reactors that can be isolated from and returned to the reforming operation. This is accomplished without changing feed rate or octane.
XI. Continuous regeneration reforming is characterized by the continuous regeneration of part of the catalyst in a special regenerator, followed by continuous addition of this regenerated catalyst to the reactor.
XII. Other includes nonregenerative reforming (catalyst is replaced by fresh catalyst) and moving-bed catalyst systems.

MMcfd - Million cubic feet per day
mt/d - Metric tons per day

Figure 4
Operating Rates (%)
of Louisiana, Taxas Gulf Coast, and all US Refineries

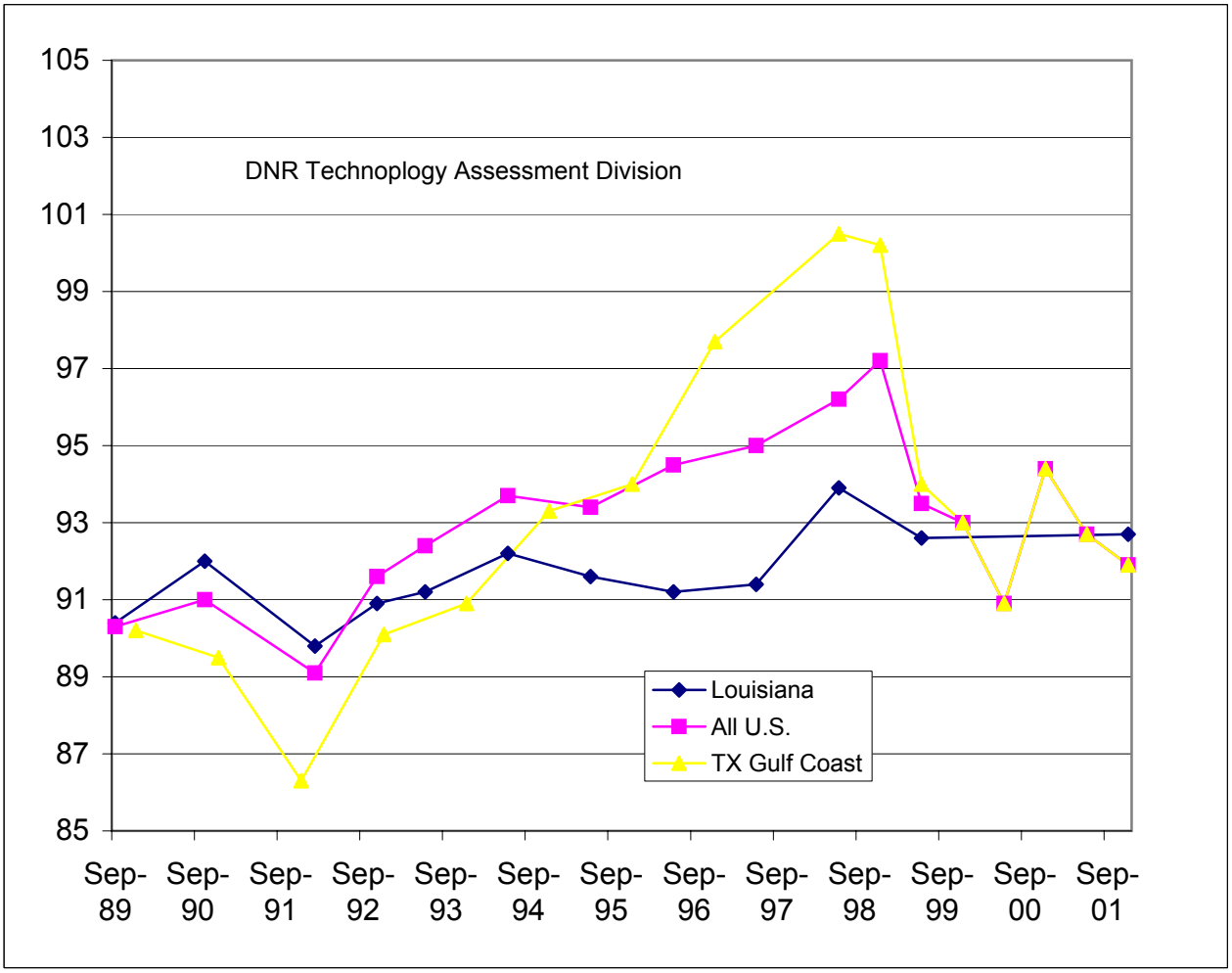


Figure 5
Production of LA and US Refineries

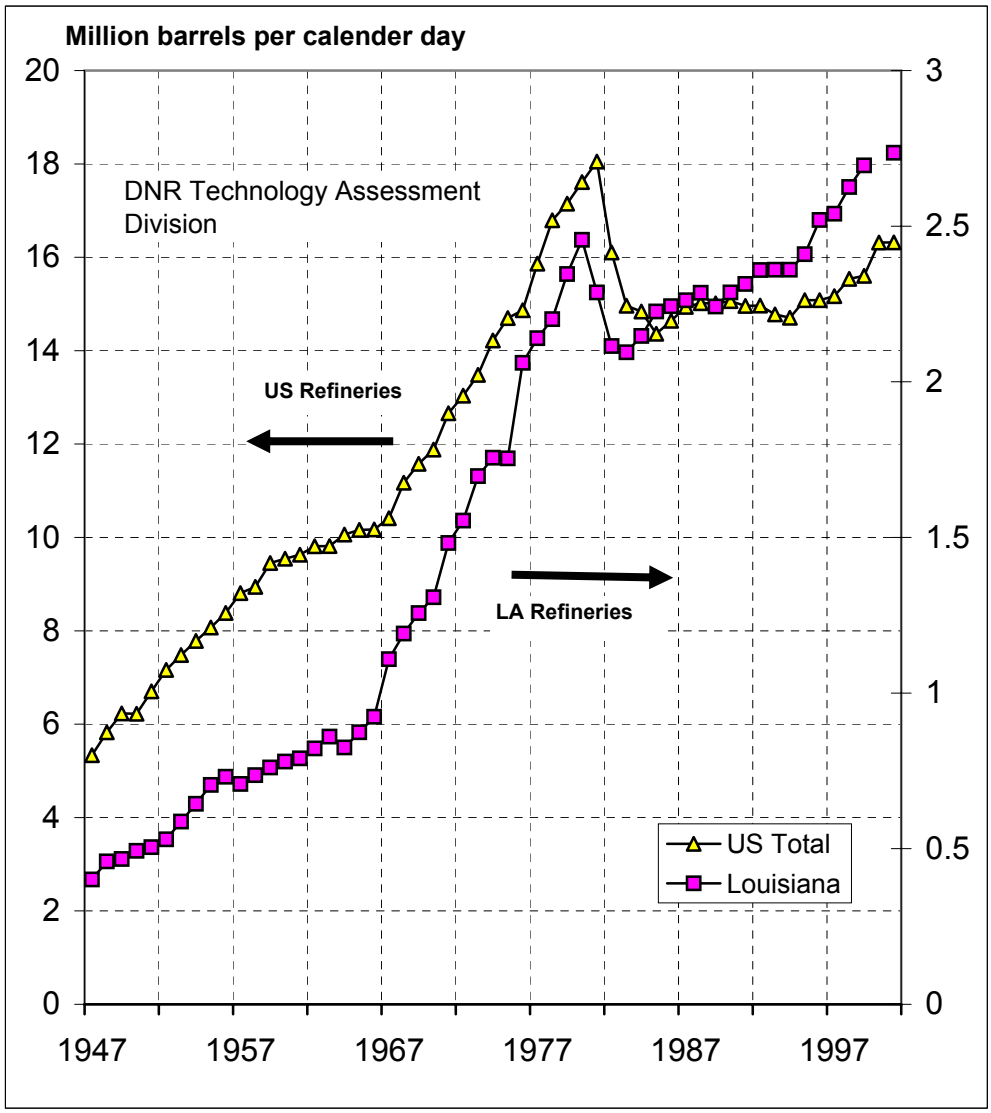


Figure 6

Louisiana Oil Production and Refinery Operable Capacity

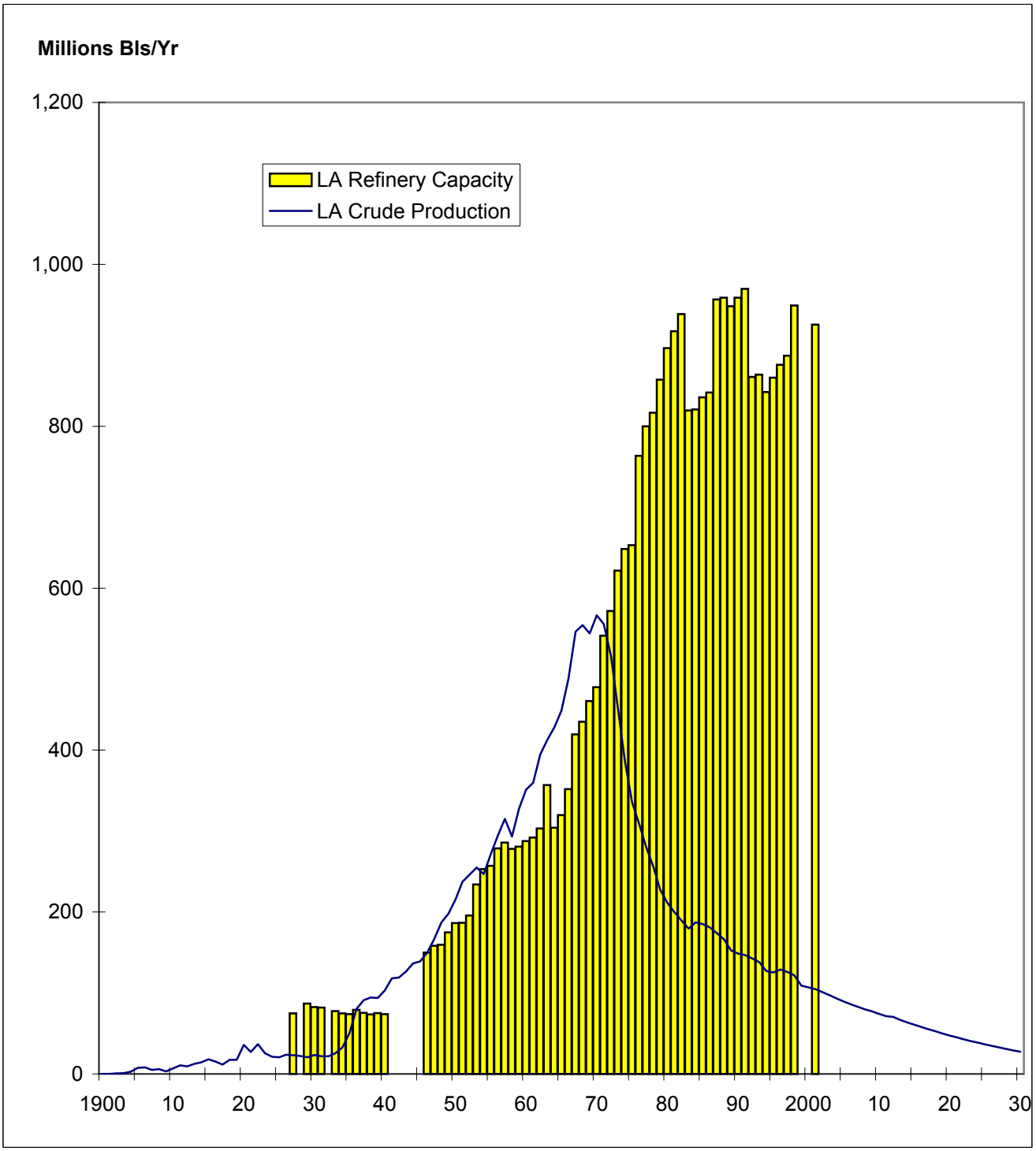
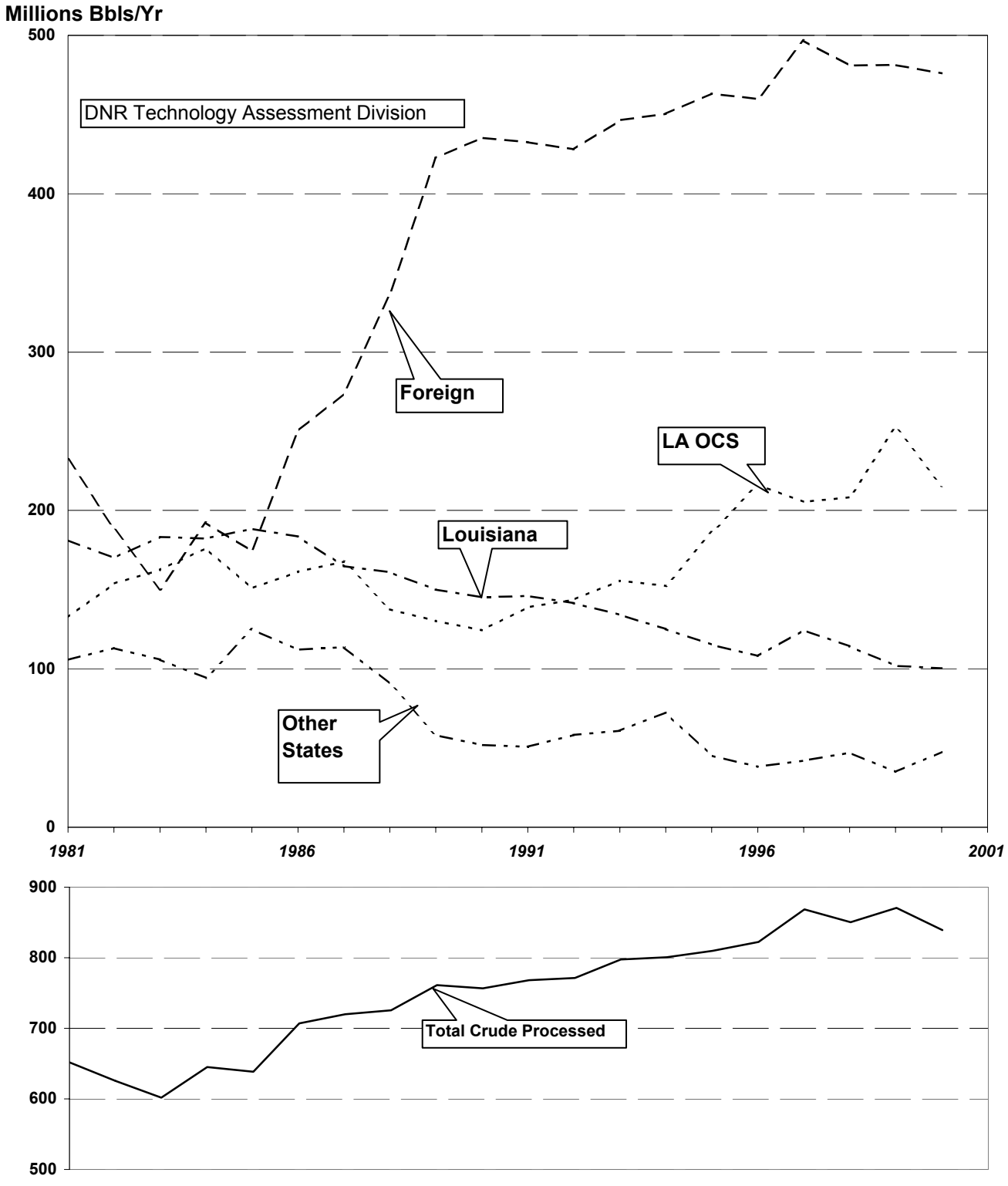


Figure 7

Crude Oil Sources for Louisiana Refineries



Total Refinery Throughput Total from all Sources

Source: LA DNR Database, from Refiner's Monthly Report Form R-3 (Calender Year Basis)

Table 6
FY 2001 Crude Oil Input % by Source and Refinery
(Data for Fig 6)

	LOUISIANA	FEDERAL OCS	OTHER STATES	FOREIGN
American Intl.				
Calcasieu	100.0	0.0	0.0	0.0
Calumet-Cotton Valley	93.3	0.0	5.7	1.0
Calumet-Princeton	100.0	0.0	0.0	0.0
Calumet-Shreveport	16.0	0.0	43.5	40.4
Chalmette Refining LLC	2.2	45.0	0.0	52.8
Citgo Petroleum	9.3	0.0	20.2	70.4
Conoco	25.2	0.0	6.5	68.3
ExxonMobil USA	0.0	46.2	3.2	50.6
Marathon	0.0	28.8	0.0	71.2
Motiva Convent	0.0	0.1	0.0	99.9
Motiva Norco	60.3	0.0	0.0	39.7
Murphy Oil	0.0	7.2	0.0	92.8
Orion Refining Corp.	5.0	0.0	0.3	94.7
Phillips Petroleum Co.	40.3	32.9	0.0	26.8
Placid Refining Co.	76.9	23.1	0.0	0.0
Shell Chemical	49.5	0.0	15.7	34.8
Valero Ref.	97.4	0.0	2.6	0.0

FY01 Data calculated from DNR SONRIS/2000 R-3 reports (except American I

NOTE: American International DNR database has no data for that facility.

Figure 8
FY 2001 Crude Oil Input % by Source and Refinery
Sorted by Source

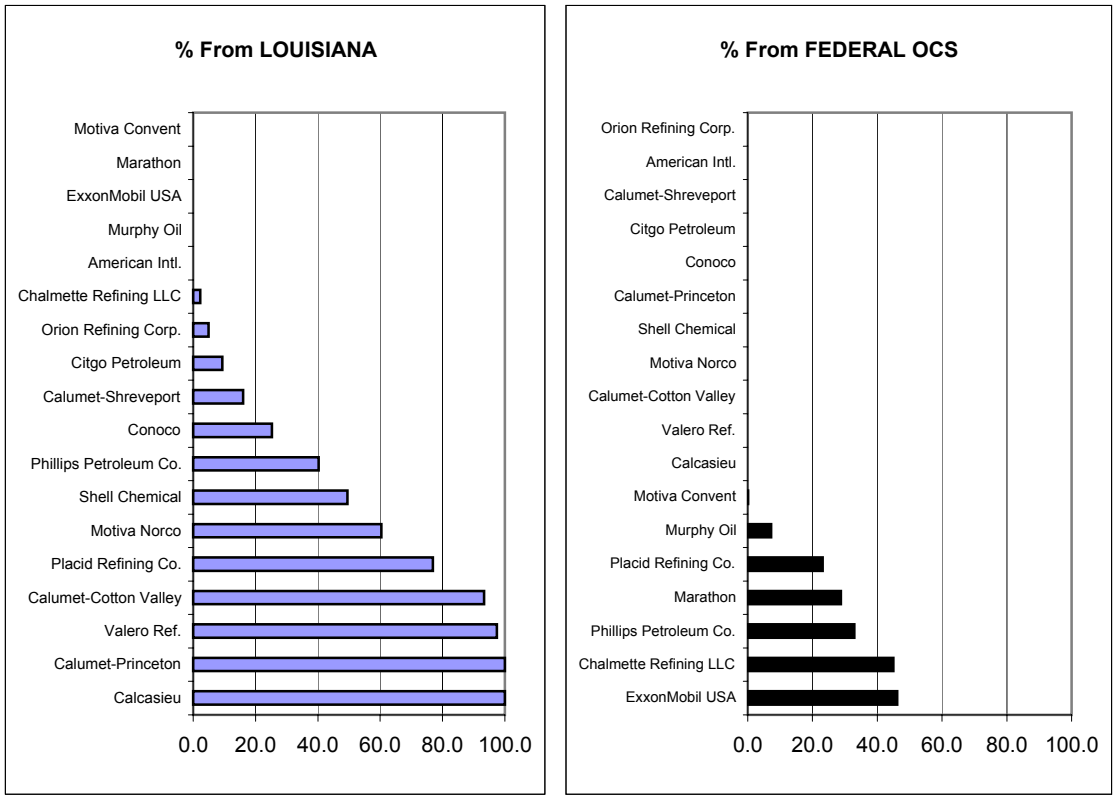
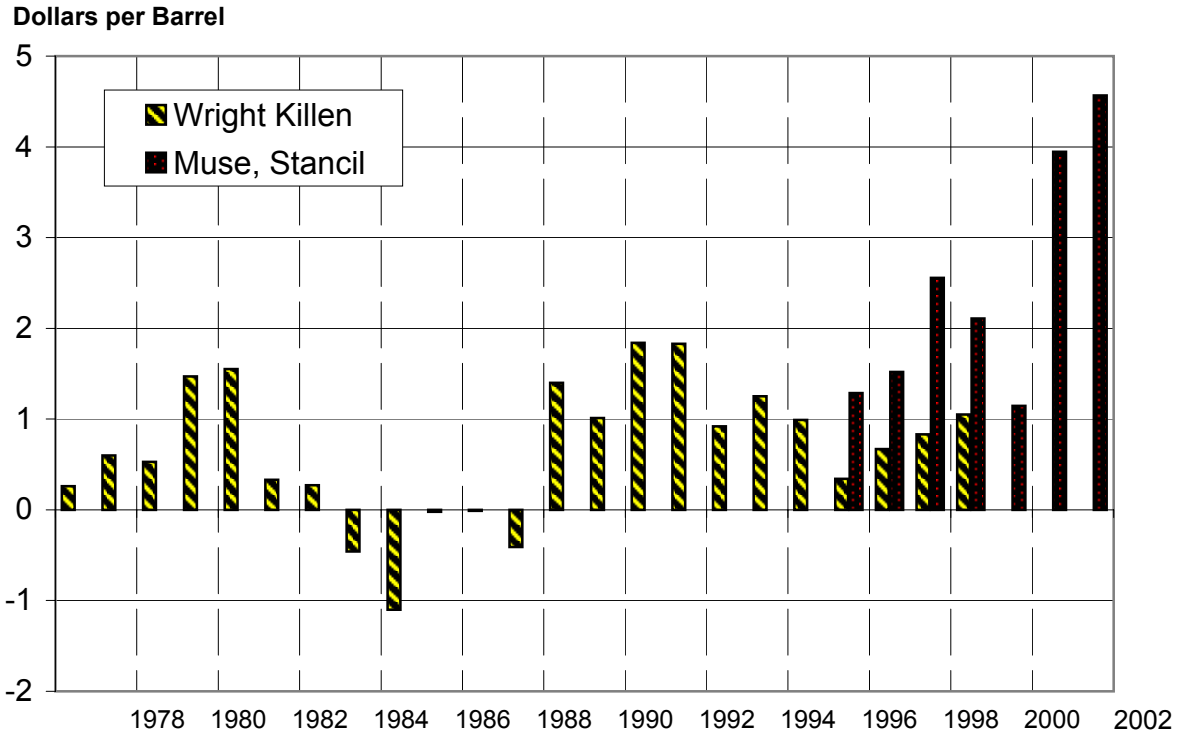


Figure 9
Gulf Coast Refinery Margins
Regional Average Cash Operating Margin



From O&GJ Database report E78USGC@OGJ

Table 7
Louisiana Operating Refineries

Company Name	Mailing Address	Contacts *	Telephone
American International Refinery, Inc	PO Drawer 16866 Lake Charles, LA 70616	Mr. Allen Lyons Mr. Larry Nicholson	(337) 439 4066
Calcasieu Refinery	4359 W. Tank Farm Rd. Lake Charles, LA 70605	Mr. Dennis Lawson Mr. Rod Nelson Ms. Toni Bennett	(337) 478 2130
Calumet Lubricants	PO Box 97 Cotton Valley, LA 71018	Mr. Rodney Butts Mr. Jeff Lang Mr. Rodney Butts	(318) 832 4236
Calumet Lubricants	10234 La Hwy. 157 Princeton, LA 71067-9172	Mr. Jerry Arnold	(318) 949 2421
Calumet Lubricants	PO Box 3099 Shreveport, LA 71133	Ms. Sharon Stine Mr. Kevin Farley Mr. Dan McKibben	(318) 632 4198
Chalmette Refining, LLC	PO Box 1007 Chalmette, LA 70044	Mr. Toby Coy	(504) 281 1624
Citgo Petroleum Corp.	PO Box 1562 Lake Charles, LA 70602	Ms. Regina Jenkins Mr. Al Prebula Mr. Joel Kieffer	(337) 708 8880
Conoco	PO Box 37 Westlake, LA 70669	Mr. Gary Hunczak Mr. Fred Stiers Mr. Mark Noble	(337) 491 5822
ExxonMobil Refining and Supply Co	PO Box 551 Baton Rouge, LA 70821	Ms. Barbara Beckman Mr. Tom Moeller Mr. Mark Northcutt	(225) 977 8393
Marathon Ashland Petroleum LLC	PO Box AC Garyville, LA 70051-0842	Mr. Junius McCants Mr. Rich Bedell Mr. Bill Kepner	(985) 535 2241
Motiva Enterprises LLC	PO Box 37 Convent, LA 70723	Mr. Gary Miller Mr. Armand Abay Mr. Kenneth McAuliffe	(225) 562 7681
Motiva Enterprises LLC	PO Box 10 Norco, LA 70079	Mr. Gary Bono Mr. Allen Kirkley Mr. Jack Williams	(985) 465 7476
Murphy Oil	PO Box 100 Meraux, LA 70075-0100	Mr. Mike McKee Mr. Jim Kowitz Mr. David Mendrek	(504) 278 5299
Orion Refining Corp.	PO Box 537 Norco, LA 70079	Ms. Michelle Smith Mr. Eric Bluth Mr. Troy Champeaux	(985) 764 8611
Philips Petroleum Co.	PO Box 176 Bell Chasse, LA 70037-0176	Mr. Ray Rigdon Mr. John Ponticello	(504) 656 3249
Placid Refining Co.	1940 La Hwy 1 North Port Allen, LA 70767	Mr. Gary Fuller	(225) 346 7464
Shell Chemical Co. / St. Rose	PO Box 10 Norco, LA 70079	Mr. Dave Brignac Mr. Tom Brumfield	(504) 465 7125
Valero Refining Co. - La.	PO Box 453 Krotz Springs, LA 70750 0453	Mr. Kevin Roy Mr. Ralph Youngblood Mr. Gregg Byers	(318) 566 0114

* Contacts are listed in order as: Contact person, Plant Manager, Plant Engineer

Table 8
Louisiana Operating Refinery Locations

Company Name	Physical Location
American International Refinery, Inc.	Lake Charles, I-10 exit 36, north to La. 3059, left 3/4 mi.
Calcasieu Refinery	Lake Charles, 3 mi. south at west end of Old Tank Farm Road on Ship Canal.
Calumet Lubricants	Cotton Valley, east side of La. 7 South at city limits.
Calumet Lubricants	Princeton, 5 mi. north of I-20 on east side of La. 157.
Calumet Lubricants	Shreveport, 3333 Midway Ave., Across I-20 from State fairgrounds.
Chalmette Refining, LLC	Chalmette 500 W. St. Bernard Hwy.
Citgo Petroleum Corp.	Lake Charles, I-10 exit 23, then 2 mi. south on La. 108.
Conoco	Westlake, I-10 Sampson Rd. exit; north to Old Spanish Trail.
ExxonMobil Refining and Supply Co.	Baton Rouge, 4045 Scenic Hwy.
Marathon Ashland Petroleum LLC	Garyville, 2 mi. toward Reserve off of U.S. 61.
Motiva Enterprises LLC	Convent, on La. 44 at east bank foot of Sunshine bridge.
Motiva Enterprises LLC	Norco River Road in Norco.
Murphy Oil	Meraux 2500 St. Bernard Hwy.
Orion Refining Corp.	Norco, 257 Prospect Ave.
Philips Petroleum Co.	Belle Chasse, 12 mi. south on east side of La. 23.
Placid Refining Co.	Port Allen 1940 La. 1 North.
Shell Chemical Co. / St. Rose	St. Rose 11842 River Rd.
Valero Refining Co. - La.	Krotz Springs La. 105 South in town.

Table 9
Operating Refineries Name History (1980-2001)

Refinery Name	Date	DNR Code & Location	Refinery Name	Date	DNR Code & Location
ExxonMobil Refinery and Supply Co.	1999-	EXX - Baton Rouge	Calcasieu Refining Co.	1985-	CLC - Lake Charles
Exxon Co. U.S.A.	1980-99		CPI Oil & Refining, Inc.	1982-84	
			Calcasieu Refining Ltd.	1980-81	
Philips Petroleum Co.	2000-	STN - Belle Chasse			
B.P. Amoco PLC	1999-00		Citgo Petroleum Corp.	1984-	CTS - Lake Charles
B.P. Oil Corp.	1989-98		Cities Service Co.	1980-83	
Standard Oil Co.	1986-88				
Gulf Refining & Marketing Co.	1985-85		Conoco, Inc.	1982-	CNB - Lake Charles
Gulf Oil Corp.	1981-84		Conoco	1980-81	
Gulf Oil Co. U.S.	1979-80		Continental Oil Co.	1979	
			American International Refinery,	1997-	LKC - Lake Charles
Chalmette Refining, LLC	1998 -	TNN - Chalmette	Gold Line Refining Ltd.	1992-97	
Mobil Oil Corp.	1989-98		American Int'l Refining, Inc.	1989-91	
Tenneco Oil Co.	1980-88		Lake Charles Refining Co.	1980-88	
			Aweco	1979-79	
Motiva Enterprises, LLC	1998-	TXC - Convent			
Star Enterprise	1989-98				
Texaco Refining & Marketing	1985-88		Murphy Oil U.S.A., Inc.	1984-	MRP - Meraux
Texaco, Inc.	1980-84		Murphy Oil Corp.	1980-83	
Calumet Lubricants Co., L.P.	1996-	CTT - Cotton Valley	Motiva Enterprises, LLC	1998-	SHL - Norco
Kerr-McGee Refining Corp.	1985-95		Shell Oil Co.	1980-98	
Kerr-McGee Corp.	1983-84				
Cotton Valley Solvents Co.	1980-82		Calumet Lubricants Co., L.P.	1991-	CLM - Princeton
			Calumet Refining Co.	1980-90	
Marathon Ashland Petroleum, LLC	1998-	MRT - Garyville			
Marathon Oil Co.	1992-98		Placid Refining Co.	1980-	PLC - Port Allen
Marathon Petroleum Co.	1985-91				
Marathon Oil Co.	1980-84		Calumet Lubricants Co., L.P.	2000-	ATL - Shreveport
			Pennzoil-Quaker State Corp.	1999-00	
Orion Refining Corp.	1999-	GDH - Good Hope	Pennzoil Producing Co.	1992-98	
TransAmerican Refining Co.	1992-98		Pennzoil Products Co.	1986-91	
TransAmerica Refining Co.	1988-91		Pennzoil Co.	1985-85	
GHR Energy Corp.	1982-87		Atlas Processing Co.	1980-84	
Good Hope Refineries, Inc.	1981-81				INT - St. Rose
Good Hope Industries, Inc.	1980-80		Shell Chemical Co.	1996-	
			St. Rose Refinery, Inc.	1994-95	
Valero Refining Co. - La.	1997-	HLL - Krotz Springs	Phibro Energy U.S.A., Inc.	1993-93	
Basis Petroleum, Inc.	1996-96		Phibro Refining, Inc.	1992-92	
Phibro Energy U.S.A., Inc.	1993-95		Hill Petroleum Co.	1987-91	
Phibro Refining Inc.	1992-92		International Processors	1981-86	
Hill Petroleum Co.	1980-91				

Table 10
Non Operating Refineries

Company Name	Mailing Address	Contacts	Telephone
Bayou State Oil Corp.	Po Box 7886 Shreveport, LA 71137	Mr. Ellis E. Brown, Sr.	(318) 222 0737
Canal Refining	PO Box 8 Church Point, LA 70525	Mr. Bob McKee	(337) 824 2500
Ergon St. James Co.	PO Box 318 St. James, LA 70086	Mr. Ronald Ardoine	(225) 265 8020
Gold Line Refining, Ltd.	11 Greenway Plaza Ste 2602 Houston TX 77046	Mr. Earl Thomas	(713) 271 3550
Quantum Fuel & Refining	Po Box 136 Newton, TX 75966	Mr. James Hughes	(409) 397 9093
Tina Resources, Inc.	207 Firestone Dr. Marble Falls, TX 78654	Mr. Leslie Vance	(512) 463 2123

Non Operable Refineries

El Paso Field Services	400 Travis Street Ste 1100 Shreveport, LA 71101	Mr. Martin Anthony	(318) 777 4000
Lisbon Refinery J.V., LLC	8613 East Wilderness Way Shreveport, LA 71106	Mr. James Ballengee	(318) 469 3084
Petroleum Fuel and Terminal	PO Box T Garyville, LA 70051	Mr. Claude Phelps	(985) 535 6256

Table 11
Louisiana Non-Operating refineries

NAME	PHYSICAL LOCATION	LAST KNOWN OPERATING CAPACITY	DATE LAST OPERATED	STATUS
Bayou State Oil Corp.	Hosston, U.S. 71 North at junction with La. 2 West.	3,000	Feb-87	No plans to reopen. Some equipment sold, but process equipment remains operable.
Canal Refining Co.	Church Point, 2 mi. north on left side of La. 178	7,500	May-97	Expecting to restart early 2002 with increased capacity, processing La. crude.
El Paso Field Services Dubach Location	Dubach, 1/4 mi. west of U.S. 167 at south city limits.	10,000	Jun-93	Facility consists of a crude oil refinery and gas liquids fractionating plant. El Paso continues to operate the gas plant but shut down the liquids fractionating unit in January 1998.
Gold Line Refining Co. Ltd. Jennings Refinery	3-1/2 mi. east of jct. U.S. 90E & La. 102 in Jennings. On Mermentau River 1 mile north of U.S. 90E at end of gravel road.	14,800	Feb-98	Owner is attempting to sell or lease the facility.
Lisbon Refinery J.V., LLC	Lisbon, 3 mi. east on south side of La. 2.	12,500	Jan-96	150,000 barrels storage useable. Refinery to be dismanteled.
Petroleum Fuel & Terminal Co.	Mt. Airy, exit Gramercy on La.20 to La.44 (River Road) junction. Left 2 miles.	23,000	Dec-86	Terminal only in use. Actively pursuing the sale of all refinery process equipment so site can be used to expand terminal.
Ergon St. James Co., LLC	St. James, 7-1/2 miles south of Sunshine Bridge on La.18.	20,000	Aug-83	Eight storage tanks in good shape, approximately 350,000 barrels capacity. Koch Petroleum Group controls docks & pipeline access on adjacent property.
Tina Resources, Inc.	Cameron Parish. Talen's Landing on Intracoastal Waterway 9 miles south of jct. La. 14 & 26 in Lake Arthur via La. 14.	7,400	Feb-86	No response to last three surveys. Last status received was that the refinery was for sale.
Quantum Fuel & Refining Egan Refinery	Egan, 101 Old Ferry Road. Take I-10 exit 72; then 2 miles south on Old Ferry Rd.	10,000	Sep-87	Start up early 2002 12,000 bpd Diesel. Site includes 500,000 barrel storage capacity.

Table 12
Non-Operating Refineries Name History (1980-2001)

Refinery Name	Dates	DNR Code & Location	Refinery Name	Dates	DNR Code & Location
Sooner Refining Co.	1980-82	SNR - Darrow	Gold Line Refining Co., Ltd.	1994-98	SLP - Mermanteau
			CAS Refining	1991-93	
Conoco, Inc.	1982-89	CNA - Egan	Celeron Oil and Gas Co.	1983-90	
Conoco	1980-81		Slapco	1980-82	
Continental Oil Co.	1979		South Louisiana Production Co.	1979	
Quantum Fuel & Refining	1998-	LOR - Egan	Petroleum Fuel & Terminal Co.	1992-	MTR- Mt. Airy
U.S. Refining, Inc.	1994-98		Clark Oil and Refining Corp.	1983-91	
Britt Processing & Refining Co.	1992-93		Mt. Airy Refining	1980-82	
Crystal Refining, Inc.	1989-91				
OGC Corp.	1988-88		St. James Co., LLC	1998-	TXS - St. James
Louisiana Oil Refining Co. of Egan	1987-87		Texas NAPCO, Inc.	1983-98	
			La. Jet, Inc.	1980-82	
El Paso Field Services	1997-	KRR - Dubach			
Arcadia Refining	1995-96		McTan Refining Corp.	1983-96	BRN - St. James
Endevco, Inc.	1989-94		McTan Corp.	1982-82	
Kerr-McGee Refining Corp.	1985-88		Bruin Refining Co.	1980-81	
Kerr-McGee Corp.	1980-84				
			Sabine Resources Group	1990-92	PRT - Stonewall
Tina Resources, Inc.	1993-96	MLL - Gueydon	Port Petroleum, Inc.	1980-89	
Cameron Oil Refining Co., Inc.	1992-92				
Cameron Resources	1990-91		Schulze Processing, Inc.	1980-82	SCH - Tallulah
Mallard Resources, Inc.	1980-89				
			Gulf Oil Co. U.S.A.	1981-81	GLF - Venice
Bayou State Oil Corp.	1980-	BYS - Hosston	Gulf Oil Corp.	1980-80	
Evangeline Refining Co.	1980-92	EVN - Jennings	Lisbon Refinery J.V., LLC	1998-	CLB - Lisbon
			Padre Refining Co.	1997-98	
Shepard Oil Co.	1980-82	SHP - Jennings	Arcadia Refining & Mktg. Co.	1995-96	
			Dubach Gas Co.	1992-94	
Laidlaw Environmental Systems	1992-92	TSR - Jennings	Claiborne Gasoline Co.	1980-91	
GSX Recovery Systems	1983-91				
T & S Refining Co.	1980-82		Canal Refining Co.	1980-	CNL - Church Pt.