

LOUISIANA CRUDE OIL REFINERY SURVEY REPORT

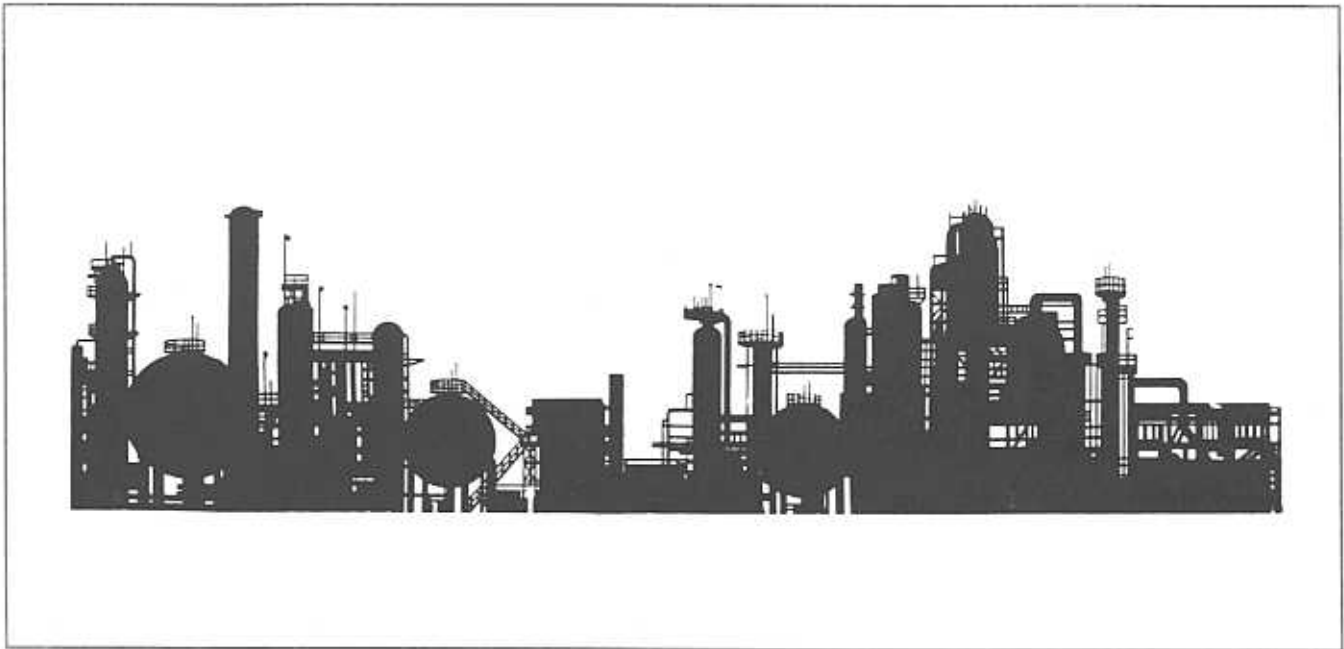
Seventh Edition

October 1995 Survey

By

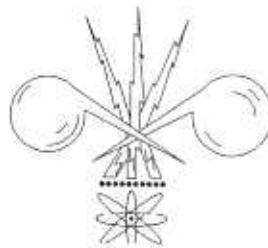
Alan A. Troy, P.E.
Senior Energy Engineer

Refining, Alternative Energy & Power Systems Program



Technology Assessment Division

T. Michael French, P.E.
Director



LOUISIANA DEPARTMENT OF NATURAL RESOURCES

Jack McClanahan
Secretary of Natural Resources

Baton Rouge
November 30, 1995

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FOREWORD

Since 1989 the Technology Assessment Division of the Louisiana Department of Natural Resources (DNR) has periodically conducted a survey 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. 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 last survey was taken in October 1994, and the report was published in December 1994.

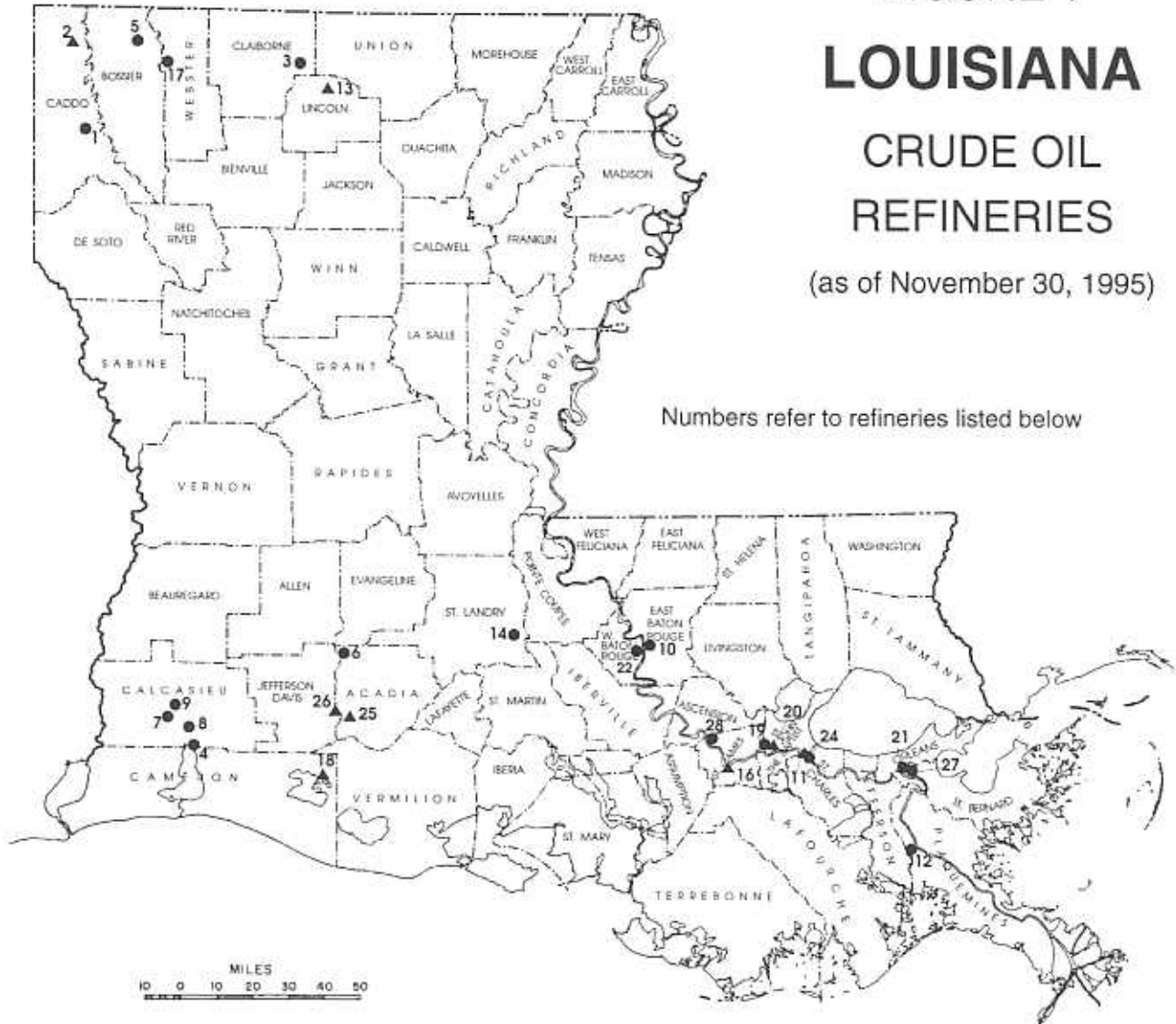
The information contained in this annual Technology Assessment Division report is designed to complement the information presented in the refinery section of the Department of Energy/Energy Information Administration (DOE/EIA) Petroleum Supply Annual published in late May or early June of each year for the previous calendar year. Generally, the period covered by DNR is the twelve months ending June 30, so this report is countercyclical to the DOE/EIA report. The operating refineries 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, and 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 Department of Natural Resources uses the information in the 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.

FIGURE 1 LOUISIANA CRUDE OIL REFINERIES

(as of November 30, 1995)

Numbers refer to refineries listed below



Technology Assessment Division

OPERATING REFINERIES

- 1 Atlas Processing Co. (Pennzoil)/Shreveport
- 3 Arcadia Refining & Marketing Co. L.P./Lisbon
- 4 Calcasieu Refining Company/Lake Charles
- 5 Calumet Lubricants Co., L.P./Princeton
- 6 Canal Refining Co./Church Point
- 7 Gold Line Refining, Ltd./Lake Charles
- 8 CITGO Petroleum Corp./Lake Charles
- 9 Conoco Inc./Lake Charles
- 10 Exxon Co., U.S.A./Baton Rouge
- 12 B.P. Oil Co./Belle Chasse
- 14 Phibro Energy U.S.A./Krotz Springs
- 17 Calumet Lubricants Co., L.P./Cotton Valley
- 19 Marathon Oil Co./Garyville
- 21 Murphy Oil U.S.A., Inc./Meraux
- 22 Placid Refining Co./Port Allen
- 24 Norco Refining Co. (Shell Oil Co.)/Norco
- 27 Mobil Oil Corp./Chalmette
- 28 Star Enterprise/Convent

NON-OPERATING REFINERIES

- 2 Bayou State Oil Corp./Hosston
- 11 TransAmerican Refining Co./Norco
- 13 Arcadia Refining & Marketing Co. L.P./Dubach
- 16 Texas NAPCO, Inc./St. James
- 18 Tina Resources, Inc./Talen's Landing
- 20 Petroleum Fuel & Terminal Co./Mt. Airy
- 25 U.S. Refining Co./Egan
- 26 Gold Line Refining, Ltd./Jennings

Note: Refineries 15, 23, and 29 have been intentionally removed from this listing because they no longer produce finished refinery products (#15) or have been dismantled (#23 & 29).

DISCUSSION

Overview

With major capital expenditures to comply with environmental and safety regulations behind them, Louisiana refineries continued to focus primarily on projects to improve profitability. These included major process reconfigurations to improve efficiency or alter the product mix to include more higher value products. Since December 1994, these projects have resulted in a total crude capacity increase of almost 70,000 bcd.

Of the nineteen refineries that operated during the year ending June 30, 1995, nine produced reformulated gasoline (RFG) for sale in those markets where the EPA had mandated its use effective January 1, 1995. None of these areas are in Louisiana. RFG accounted for nearly 11% of all gasoline production by Louisiana refineries. However, RFG production came at the expense of the other grades as total gasoline production remained virtually the same as the previous twelve month period. Some refineries have reduced or eliminated RFG production altogether because they felt the market for it was too uncertain in that the EPA had granted waivers to certain areas allowing them to "opt out" of the program.

For the twelve month period ending June 30, 1995, total Louisiana refinery operating rates decreased slightly. While there were some changes in the product mix of individual refineries, the overall mix remained about the same. The trend to less mid-grade gasoline production continued into its fifth year. Crude capacity, operating rates, and product slate for each operating refinery are shown in Table 1. Tables 2 and 3 provide additional complementary information on downstream charge and production capacity.

Two operating refineries changed ownership during the period. No non-operating refineries changed hands, and two of them indicated they would reopen.

Operating Refineries

The total operating capacity of 2,410,341 barrels per calendar day (bcd) reported as of June 30, 1995, is about 3% higher than the 2,345,664 bcd reported in our October 1994 survey. The overall operating rate declined to 91.6% from 92.2%. This compares with the national rate of 93.4% for the same period. The graph of Figure 2 plots the overall operating rates of Louisiana refineries as compared to Texas Gulf Coast refineries and U.S. refineries beginning with the first DNR survey in September 1989. Figure 3 shows the trend of Louisiana and U.S. operating capacity from 1947-1994.

Through November 30, 1995, eight refineries reported capacity increases totaling 69,677 bcd. A list of the refineries and the increases follow:

<u>Company/Refinery</u>	<u>Previous Capacity (bcd)</u>	<u>New Capacity (bcd)</u>	<u>Increase (bcd)</u>
Arcadia Ref./Lisbon	8,500	12,500	4,000
B.P. Oil/Alliance	222,764	249,141	26,377
Calcasieu Ref./Lake Charles	12,500	13,300	800
Calumet Lubr./Princeton	6,500	9,000	2,500
CITGO/Lake Charles	295,000	300,000	5,000
Mobil Oil/Chalmette	170,000	191,000	21,000
Murphy Oil/Meraux	95,000	100,000	5,000
Norco Ref./Norco	215,000	220,000	5,000
		Total Increase	69,677

Louisiana refineries continue to obtain most of their crude supply from outside the state as oil production within the state continues to decline. Only about 20% comes from Louisiana. This trend is depicted in the graph of Figure 4, which shows Louisiana refinery operable capacity and oil production since 1900. Of the outside sources supplying crude to Louisiana refineries, foreign countries provide the most at 54%, the OCS is next at 18%, and other states at 8%. Figure 5 shows the historical sources of crude oil for Louisiana refineries for the period 1981-1994. Generally, the smaller refineries use a greater percentage of Louisiana crude than the large refineries to satisfy their total requirements. Figure 6 shows the percentage crude source for each Louisiana refinery for 1994.

Since the beginning of the year through July, the monthly Gulf Coast Refinery Margin has been very volatile. After a steady decline to a low of $-\$1.33/\text{bbl}$ in March, it rebounded to its peak of $\$2.13/\text{bbl}$ in May, and then declined sharply again to $-\$0.01/\text{bbl}$ in July. Figure 7 shows the yearly average cash margins for the period 1976-1994, and monthly for 1995 through July.

Dallas-based Arcadia Refining and Marketing Co. increased the capacity of the Lisbon refinery it acquired last year from Cornerstone Natural Gas Co. from 8,500 bcd to 12,500 bcd. The refinery has stopped gasoline production, and Arcadia plans to increase its solvents output from 600 bcd to 2400 bcd over time.

Atlas Processing plans a $\$6$ million expansion of its Red River port facilities in 1996. The port is located about six miles from the refinery. Atlas previously announced plans to construct a $\$200$ million complex to convert the Shreveport refinery's lube oil by-products into clean burning gasoline and diesel fuels. This project was scheduled to be finished by the close of 1996. No increase in crude capacity will result from these investments.

The crude capacity of the Princeton refinery of Calumet Lubricants Co. L.P. was expanded again from 7000 bcd to 9000 bcd in 1995. Since 1991 crude capacity has been increased several times to more than double the 1991 capacity of 4200 bcd. Also in 1995, Calumet purchased Kerr-McGee's 7800 bcd Cotton Valley refinery and plans to refurbish underutilized equipment at the refinery and pursue new markets. Management personnel at the Princeton refinery will be involved in the nearby Cotton Valley facility.

Shell Oil Company's Norco Manufacturing Complex has been split into two units—Norco Refining Co., and Shell Chemical Co. Norco Refining refines crude oil into finished products while Shell Chemical produces chemicals using a variety of feedstocks, including crude oil.

In August of 1995 Shell Chemical purchased the 40,000 bcd St. Rose refinery from Enjet and is using the refinery to provide feedstock to its Olefins Feed Process Unit (OFPU). The feedstock is presently transported by barge to Norco, but a seven mile pipeline will be built between St. Rose and Norco. The pipeline is scheduled to be operational in 1996. Since the St. Rose refinery is no longer being used to produce finished refinery products, we have removed it from our list of refineries.

The identity and location of each of Louisiana's eighteen refineries that were operating as of November 30, 1995, is shown on the map of Figure 1. Mailing addresses and contacts are listed in Table 4. A description of the physical location of each refinery is given in Table 5.

Non-Operating Refineries

When Arcadia acquired Cornerstone's Lisbon refinery in 1994, it also acquired the assets of Cornerstone's idle 10,000 bcd Dubach refinery. While Arcadia is operating and expanding the Lisbon refinery, it has no plans to utilize the refinery assets at the Dubach location. The Dubach facility also consists of a gas liquids fractionating plant, which is presently owned and

operated by Cornerstone as Dubach Gas Co. The plant stopped taking crude as of July 1, 1993, and was reclassified by DNR as a non-operating refinery.

Gold Line's Jennings refinery is scheduled to reopen by the second quarter of 1996 if financing is obtained. An engineering firm is preparing a study to present to potential lenders. The rationale for reopening the refinery is that there is room to expand at the site and actual ownership of the facility as opposed to leasing as is the case with the Lake Charles refinery. If the refinery reopens, management from Gold Line's Lake Charles refinery will also run the Jennings refinery. The refinery was purchased by Gold Line in June of 1994. Since then, a wastewater injection well at the site has been in use to dispose of wastewater from the Lake Charles refinery.

A successful placing of \$440 million of junk bonds in February has provided the necessary financing to refurbish TransAmerican's idle 200,000 bcd Good Hope refinery so the refinery can start processing crude in December or early 1996. The bond offering provided a net of \$310 million to TransAmerican and will enable the refinery to utilize state-of-the-art methods and equipment to process a variety of crudes and assure maximum efficiency and environmental protection. Initial operation will be as a topping unit producing light distillates with a crude throughput of 100,000 bcd to be gradually increased to 200,000 bcd. A 3,000 bcd MTBE unit is scheduled to go on-line near the end of 1996.

The identity and location of each of Louisiana's eight non-operating refineries is shown on the map of Figure 1. Mailing addresses and contacts are listed in Table 6. Physical locations, last known crude capacity, date last operated, and present status are described in Table 7.

ΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩΩ

The resources of the industry continue to be redirected from projects mandated by government regulations toward more potentially profitable ventures in the private marketplace. Restructuring and redeployment of assets continues as each company strives toward maximum efficiency and profits. The industry has proved to be remarkably resilient in coping with government regulations and volatile markets the past several years and appears to be capable of overcoming new challenges as well. We will continue to follow the industry and report on new developments in the next edition of this report.

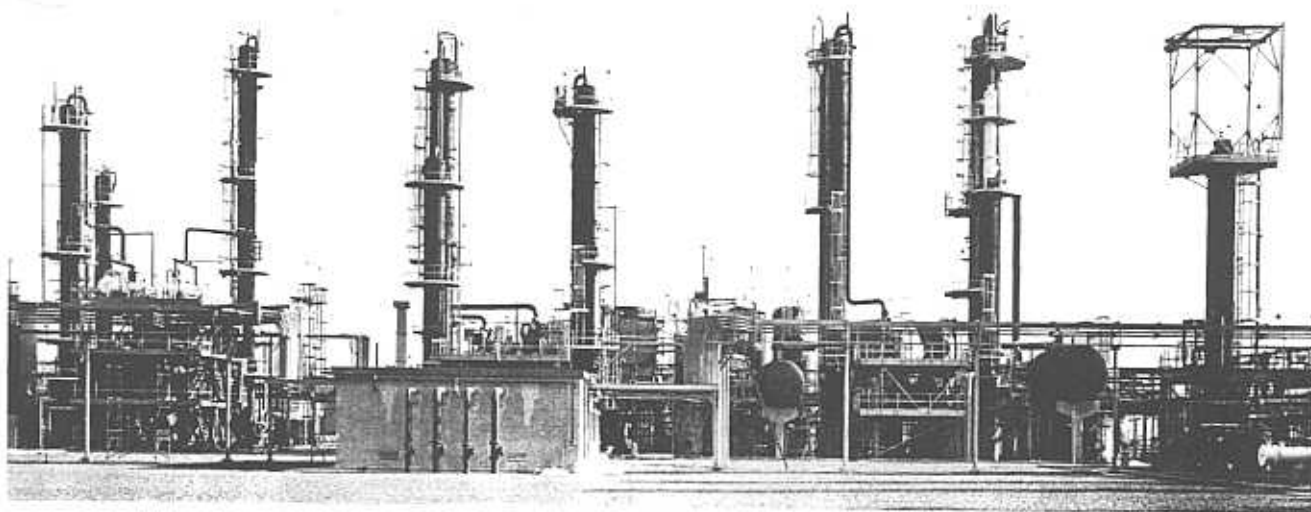


TABLE 1
LOUISIANA OPERATING REFINERIES
CRUDE CAPACITY (barrels/calendar day) AND PERCENT PRODUCT SLATE

NAME	OPERATING CAPACITY As of June 30, 1995	IDLE CPCTY	OPR RATE %	% OF TOTAL PRODUCT SLATE													
				GASOLINE				OTHER FUELS			MISCELLANEOUS			OTHER PRODUCTS			
				REG	MID- GRADE	ALL PREM	ALL RFG	DIESEL	JET/ KERO	FUEL OIL	LPG's	NAPTH	COKE/ RESID	PRODUCT 1	PRODUCT 2	PRODUCT 3	ALL OTHER
Arcadia Refng & Mktg/ Lisbon Ref.	12,500	0	59.5	0.0	0.0	0.0	0.0	11.0	8.0	25.0	4.0	35.0	0.0	15.0	0.0	0.0	2.0
Atlas Processing Co. (Pennzoll)	46,200	0	84.2	13.0	1.6	2.3	0.0	17.9	18.3	0.0	0.0	4.8	7.4	Solvents			
B. P. Oil Co./Alliance Refinery	249,141	859	100.0	33.0	0.0	12.3	0.1	28.8	11.0	0.1	1.9	0.0	1.5	Lubes/Motor Oil	Catfeed	Waxes	
Calcasieu Refining Company	13,300	0	89.5	0.0	0.0	0.0	0.0	25.9	20.1	0.0	3.8	33.0	0.0	3.1	1.6	0.6	5.8
Calumet Lubricants/Princeton Refinery	9,000	0	78.8	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	0.0	Aromatics	Carbon Black	Intermediates	
Calumet Lubricants/Cotton Valley	7,800	0	61.5	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0	39.3	0.0	17.2	0.0	0.0	0.0
Canal Refining Co.	10,000	0	67.1	18.0	0.0	5.0	0.0	53.0	0.0	0.0	1.5	0.0	20.0	Catfeed			
CITGO Petroleum Corp.	300,000	0	91.0	26.2	0.0	14.3	8.0	8.5	15.8	5.2	2.8	0.0	8.3	69.0	17.0	0.0	0.0
Conoco Inc./Lake Charles Refinery	195,500	0	91.5	15.9	0.0	5.8	4.7	28.5	9.1	1.9	3.5	7.0	9.8	29.3	24.5	0.0	0.1
Exxon Co. U.S.A.	424,000	0	98.6	20.5	3.7	11.1	4.5	17.0	13.4	3.0	2.2	1.1	3.8	Gas Oil	Straight Run		
Gold Line Refining, Ltd./Lake Charles	17,500	2,500	57.3	0.0	0.0	0.0	0.0	23.0	36.0	0.0	0.5	22.5	0.0	0.0	0.0	0.0	2.5
Marathon Oil Co.	255,000	0	81.9	41.3	0.4	9.2	3.3	0.0	1.1	30.0	5.2	1.0	8.1	2.7	1.6	0.0	6.6
Mobil Oil Corp./Chalmette Refinery	191,000	0	83.5	19.5	0.7	10.5	16.1	2.1	10.3	16.3	3.2	0.8	8.4	Petrochemicals	Lubes		
Murphy Oil U.S.A. Inc./Meraux Ref.	100,000	0	80.9	36.2	0.5	16.2	1.0	21.2	10.0	10.4	3.3	0.2	0.0	11.8	0.0	0.0	2.0
Norco Refining Co. (Shell Oil Co.)	215,000	0	99.7	35.2	4.2	13.1	6.2	2.3	15.8	6.1	6.3	0.6	4.6	Gas Oil			
Phibro Energy U.S.A./Krotz Springs	60,000	0	98.1	27.1	0.0	3.2	0.0	14.4	15.3	0.0	1.4	11.6	0.0	12.0	3.8	3.6	0.3
Placid Refining Co.	47,000	0	96.8	31.3	5.1	7.7	0.0	20.7	10.3	8.7	3.8	0.0	6.2	Chem. Fdstck	Internal Fuels	Lube Oil	
St. Rose Refinery, Inc.	32,400	7,600	54.6	0.0	0.0	0.0	0.0	6.8	11.4	0.0	0.0	27.9	29.0	18.0	0.0	0.0	0.0
Star Enterprise	225,000	0	95.9	39.1	1.0	2.8	4.1	23.2	9.8	12.0	3.1	1.3	0.5	Gas Oil			
WEIGHTED STATE AVERAGE %*			91.6	27.7	1.4	9.8	4.7	14.9	11.5	7.8	3.2	2.2	5.1	0.4	0.0	0.0	0.0
TOTAL LA OPERATING CAPACITY	2,410,341													0.4	0.0	0.0	0.0
														Internal Fuel Gas	Gas Oil		
														17.0	8.3	0.0	0.0
														Gas Oil	Asphalt		1.6
														0.9	0.4	0.2	
														Sulfur	Gas Oil	MTBE	
														6.7	1.9	0.9	2.0

NOTE: All data are for the twelve month period ending June 30, 1995. It may differ slightly from data reported elsewhere for a different time frame.

Operating rates are computed by dividing the daily average crude input by the operating capacity provided by survey respondents.

* Individual product percentage components may not total 100% because of independent rounding.

TABLE 2

U. S. DEPARTMENT OF ENERGY
CAPACITY OF LOUISIANA OPERABLE PETROLEUM REFINERIES AS OF JANUARY 1, 1995
(Barrels per Stream Day, Except Where Noted)

Refiner/Location	Atmospheric Crude Oil Distillation Capacity				Downstream Charge Capacity				
	Barrels per Calendar Day		Barrels per Stream Day		Vacuum Distillation	Thermal Cracking			
	Operating	Idle	Operating	Idle		Delayed Coking	Fluid Coking	Vis-breaking	Other/ Gas Oil
Arcadia Ref. & Mktg. Co. Lisbon	7,350	0	7,500	0	0	0	0	0	0
BP Oil Corp. Belle Chasse (Alliance)	231,500	0	235,000	0	89,000	24,000	0	0	0
Calcasieu Refining Co. Lake Charles	12,500	0	13,500	0	0	0	0	0	0
Calumet Lubricants Co. L.P. Princeton	8,200	0	8,700	0	6,000	0	0	0	0
Canal Refining Co. Church Point	9,500	0	10,000	0	0	0	0	0	0
Citgo Petroleum Corp. Lake Charles	305,000	0	320,000	0	83,000	94,000	0	0	0
Conoco Inc. Westlake	191,000	0	199,000	0	87,800	65,000	0	0	12,000
Exxon Co. U.S.A. Baton Rouge	424,000	0	441,000	0	190,500	95,000	0	0	0
Gold Line Refining Ltd. Lake Charles	0	27,600	0	30,000	10,000	0	0	0	0
Kerr-McGee Refining Corp. Cotton Valley	7,800	0	8,500	0	0	0	0	0	0
Marathon Oil Co. Garyville	255,000	0	263,000	0	125,000	0	0	0	0
Mobil Oil Corp. Chalmette	170,000	0	177,800	0	92,500	33,000	0	0	0
Murphy Oil U.S.A. Inc. Meraux	100,000	0	105,000	0	50,000	0	0	0	0
Pennzoil Producing Co. Shreveport	46,200	0	50,000	0	23,000	0	0	0	0
Phibro Energy U.S.A. Inc. Krotz Springs	60,000	0	61,500	0	22,000	0	0	0	0
Placid Refining Co. Port Allen	48,500	0	49,500	0	20,000	0	0	0	0
St. Rose Refining Inc.* St. Rose	40,000	0	45,000	0	18,000	0	0	0	0
Shell Oil Co. Norco	215,000	0	220,000	0	78,000	21,000	0	0	108,000
Star Enterprise Convent	225,000	0	242,500	0	98,500	0	0	12,000	0
Transamerican Refining Co.** Good Hope (Norco)	0	0	0	0	240,000	0	0	0	0
1994 LOUISIANA TOTALS	2,356,550	27,600	2,457,500	30,000	1,233,300	332,000	0	12,000	120,000

*Estimated capacities

** Refinery was reactivated during 1994

Source: Energy Information Administration/Petroleum Supply Annual 1994, Volume 1, Table 38 [DOE/EIA-0340(94)/1]

Location	Downstream Charge Capacity (Continued)									
	Catalytic Cracking		Catalytic Hydro-Cracking	Catalytic Reforming		Catalytic Hydrotreating				Fuel Solvent Deasphltg
	Fresh	Recycled		Low Pressure	High Pressure	Heavy Gas Oil	Naptha/Ref. Feeds	Distillate	Other/Residual	
Lisbon	0	0	0	0	2,500	0	4,200	0	0	0
Belle Chasse (Alliance)	96,300	2,000	0	0	42,000	0	42,000	55,000	0	0
Lake Charles	0	0	0	0	0	0	0	0	0	0
Princeton	0	0	0	0	0	0	0	0	7,000	0
Church Point	0	0	0	1,900	0	0	0	0	0	0
Lake Charles	130,000	0	45,000	86,000	20,000	0	116,000	30,000	23,000	0
Westlake	51,000	0	0	13,000	17,000	0	33,000	125,500	13,000	0
Baton Rouge	205,000	0	24,000	60,000	30,000	0	95,000	89,000	64,500	0
Lake Charles	0	0	0	0	0	0	0	0	0	0
Cotton Valley	0	0	0	0	0	0	0	0	0	0
Garyville	95,000	0	0	45,000	0	71,000	50,000	45,000	0	30,000
Chalmette	64,000	0	18,000	19,000	28,000	43,000	45,000	24,000	0	0
Meraux	40,000	0	0	18,500	0	33,000	26,000	15,000	0	0
Shreveport	0	0	0	6,500	0	0	10,000	10,000	10,200	0
Krotz Springs	28,000	0	0	0	14,000	0	14,000	0	0	0
Port Allen	19,000	2,000	0	10,000	0	0	10,000	0	0	5,000
St. Rose	0	0	0	0	0	0	0	0	0	0
Norco	90,000	0	38,000	39,000	16,000	70,000	29,000	0	28,000	0
Convent	85,000	0	50,000	0	40,000	0	42,000	95,500	32,500	0
Good Hope	0	0	0	0	0	0	0	0	0	0
	903,300	4,000	175,000	298,900	209,500	217,000	516,200	489,000	178,200	35,000

TABLE 3

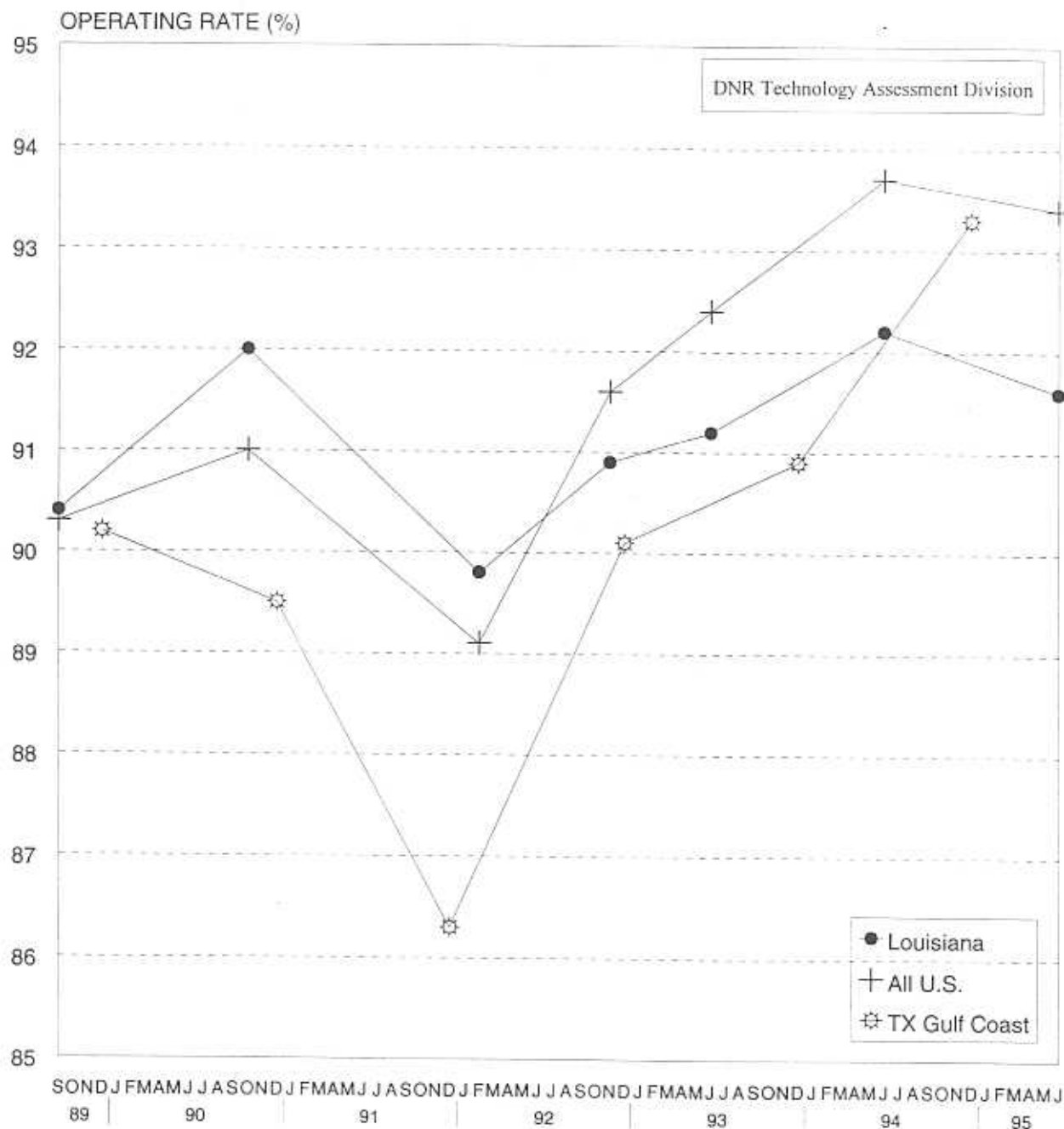
U. S. DEPARTMENT OF ENERGY
 PRODUCTION CAPACITY OF LOUISIANA OPERABLE PETROLEUM REFINERIES
 AS OF JANUARY 1, 1995
 (Barrels per Stream Day, Except Where Noted)

Refiner/Location	Production Capacity								
	Alkylates	Aromatics	Asphalt and Road Oil	Isomers		Lubricants	Marketable Petroleum Coke	Hydrogen (MMcfd)	Sulfur (short tons per day)
				Isobutane	Isopentane and Isohexane				
Arcadia Ref. & Mktg. Co. Lisbon	0	950	0	0	1,600	0	0	0	0
BP Oil Corp. Belle Chasse (Alliance)	36,000	8,000	0	0	0	0	3,500	40	125
Calcasieu Refining Co. Lake Charles	0	0	0	0	0	0	0	0	0
Calumet Lubricants Co. L.P. Princeton	0	0	1,700	0	0	6,600	0	5	2
Canal Refining Co. Church Point	0	0	0	0	0	0	0	0	0
Citgo Petroleum Corp. Lake Charles	23,000	4,000	0	0	28,000	9,600	22,500	0	690
Conoco Inc. Westlake	8,000	0	0	0	0	0	18,250	0	430
Exxon Co. U.S.A. Baton Rouge	35,800	0	12,000	0	0	15,800	24,900	19	661
Gold Line Refining Ltd. Lake Charles	0	0	0	0	0	0	0	0	0
Kerr-McGee Refining Corp. Cotton Valley	0	0	0	0	0	0	0	0	0
Marathon Oil Co. Garyville	27,000	0	40,000	12,000	10,000	0	0	0	504
Mobil Oil Corp. Chalmette	19,000	7,000	0	0	0	0	7,750	24	198
Murphy Oil U.S.A. Inc. Meraux	9,500	0	18,000	0	0	0	0	0	0
Pennzoil Producing Co. Shreveport	0	0	600	0	0	8,000	0	6	13
Phibro Energy U.S.A. Inc. Krotz Springs	0	0	0	2,700	800	0	0	0	10
Placid Refining Co. Port Allen	4,000	0	0	0	0	0	0	0	8
St. Rose Refining Inc. St. Rose	0	0	0	0	0	0	0	0	0
Shell Oil Co. Norco	15,500	0	0	0	0	0	5,725	70	280
Star Enterprise Convent	14,500	0	0	0	12,500	0	0	63	728
1994 LOUISIANA TOTALS	192,300	19,950	72,300	14,700	52,900	40,000	82,625	227	3,649

MMcfd = Million cubic feet per day

Source: Energy Information Administration/Petroleum Supply Annual 1994, Volume 1, Table 39 [DOE/EIA-0340(94)/1]

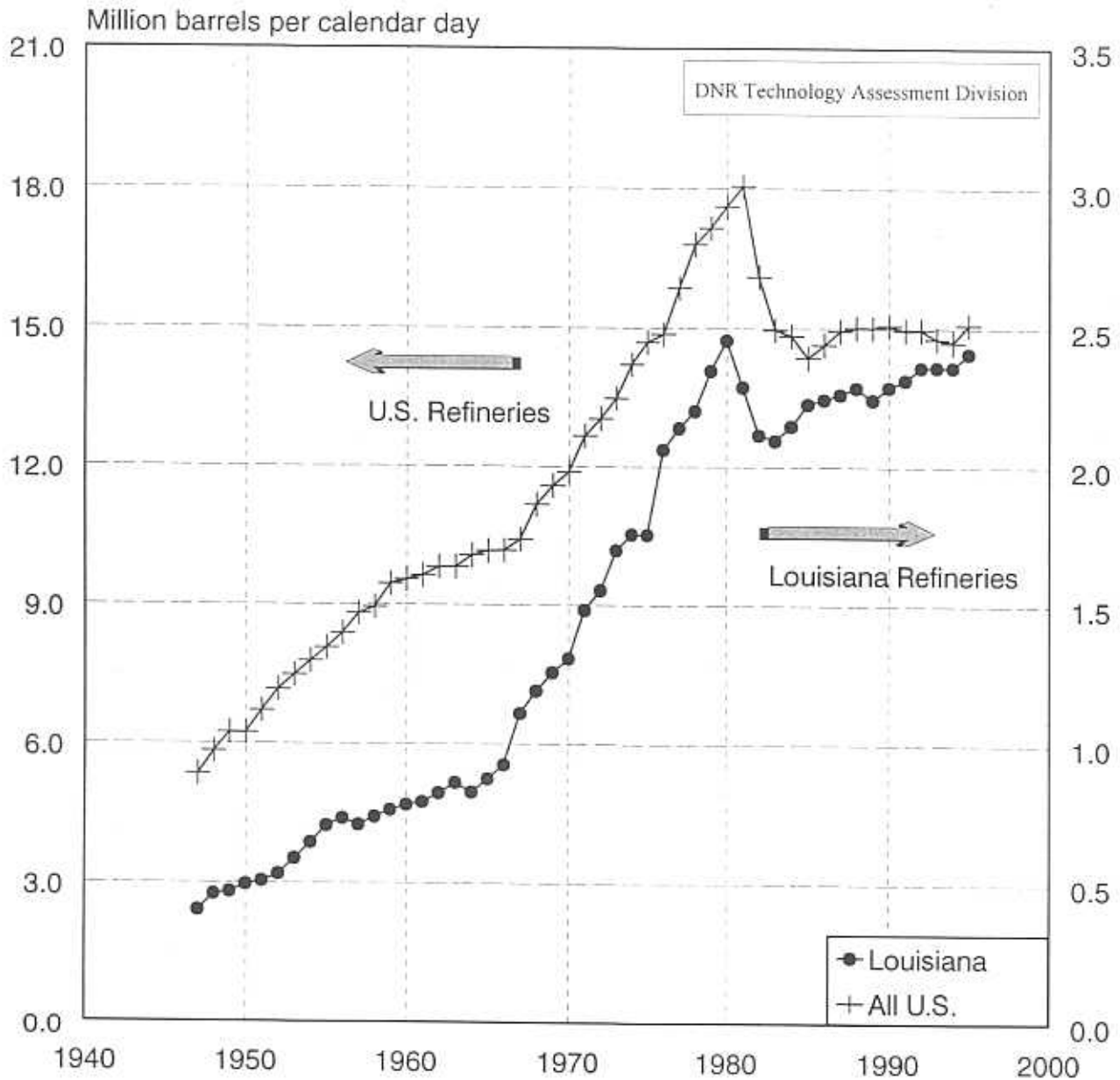
FIGURE 2
OPERATING RATES (%)
OF LOUISIANA, TEXAS GULF COAST*, AND ALL U.S.
REFINERIES



Source: LA Refineries-DNR Refinery Survey
 TX Refineries-EIA Petroleum Supply Annuals, 1989-1994, Table 16
 U.S. Refineries-EIA Petroleum Supply Monthly, Vol. 1, 12/89 12/91, 1/93, 9/93, 94, 95; Table H2

*Texas Gulf Coast: The following counties of the State of Texas: Newton, Orange, Jefferson, Jasper, Tyler, Hardin, Liberty, Chambers, Polk, San Jacinto, Montgomery, Harris, Galveston, Waller, Fort Bend, Brazoria, Wharton, Matagorda, Jackson, Victoria, Calhoun, Refugio, Arkansas, San Patricio, Nueces, Kleberg, Kenedy, Wilacy, and Cameron

FIGURE 3 OPERATING CAPACITY OF LOUISIANA AND U.S. REFINERIES

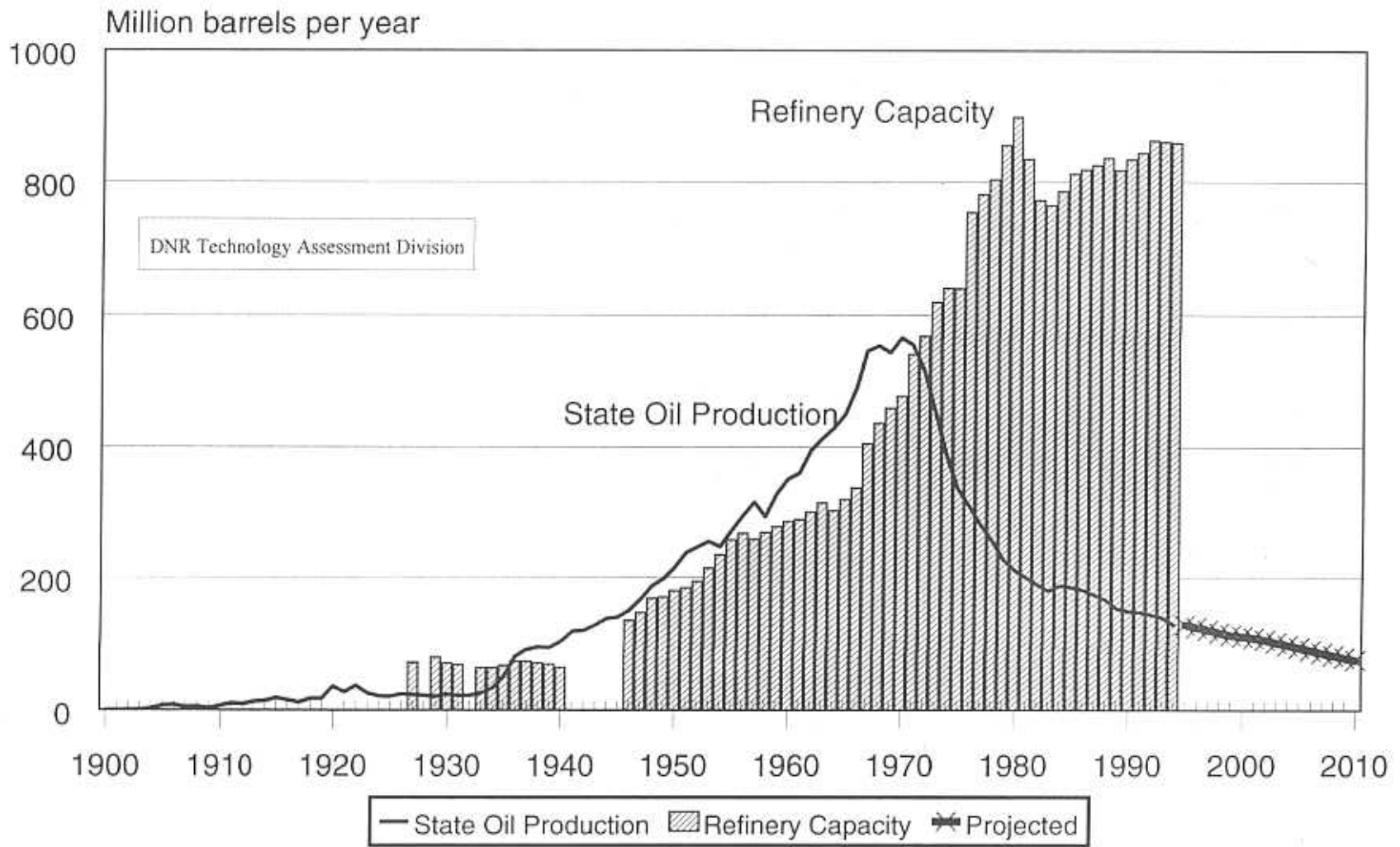


Source: LA Refinery Capacity - DNR Energy Database and DOE, EIA Petroleum Supply Annuals, Volume I, Table 38

U.S. Refinery Capacity - Basic Petroleum Data Book, Petroleum Industry Statistics, American Petroleum Institute, Volume XV, No. 3, July 1995, Section VIII, Table 4

FIGURE 4

LOUISIANA OIL PRODUCTION AND REFINERY OPERATING CAPACITY



Source: Oil Production - DNR Database

Refinery Capacity - DNR Energy Database and DOE/EIA Petroleum Supply Annuals, Volume I, Table 38

NOTE: 1979 Capacity is estimated

FIGURE 5
HISTORICAL REFINERY INPUT BY SOURCE

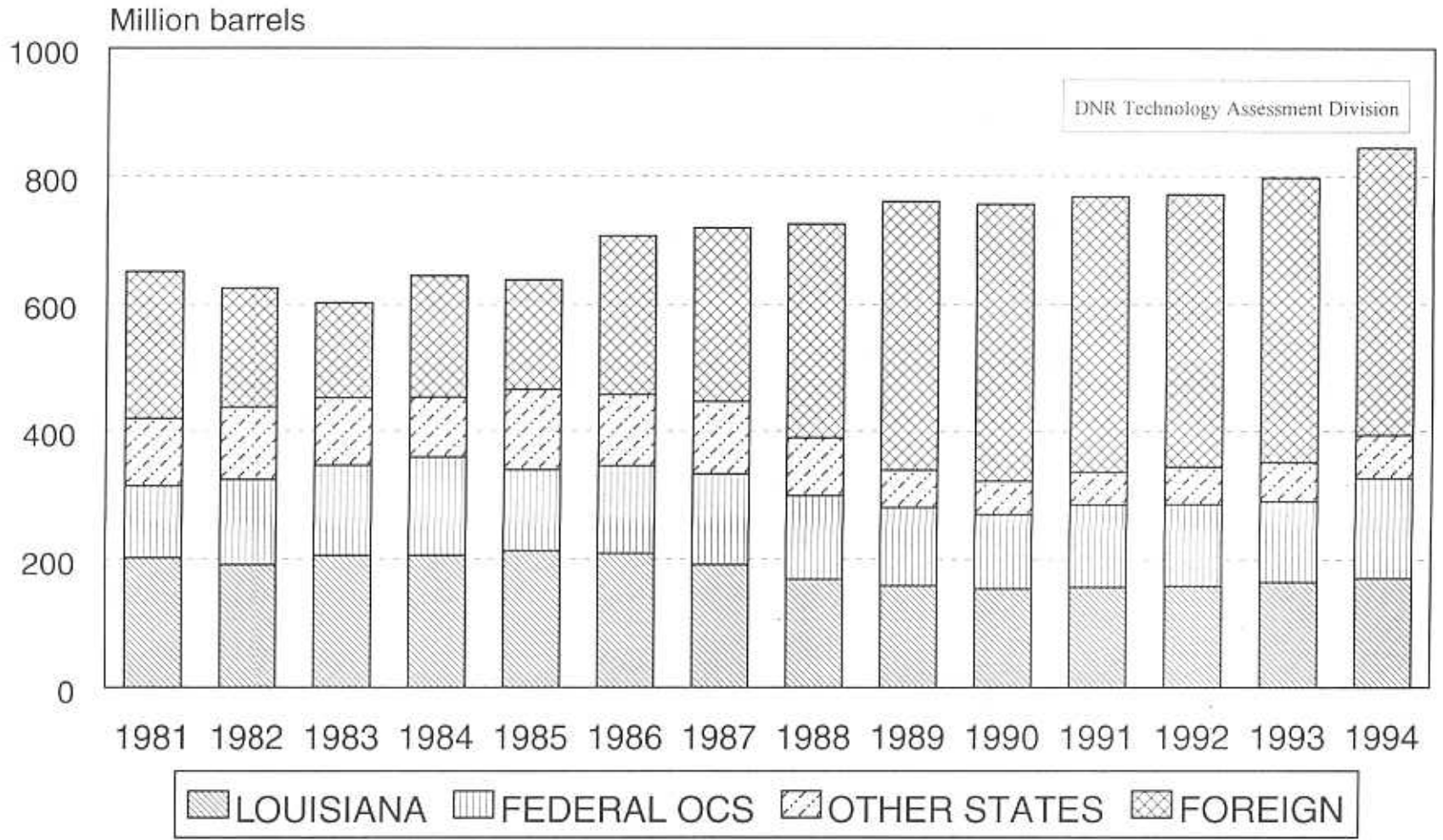


FIGURE 6
1994 REFINERY CRUDE OIL INPUT
PERCENTAGE BY SOURCE BY COMPANY

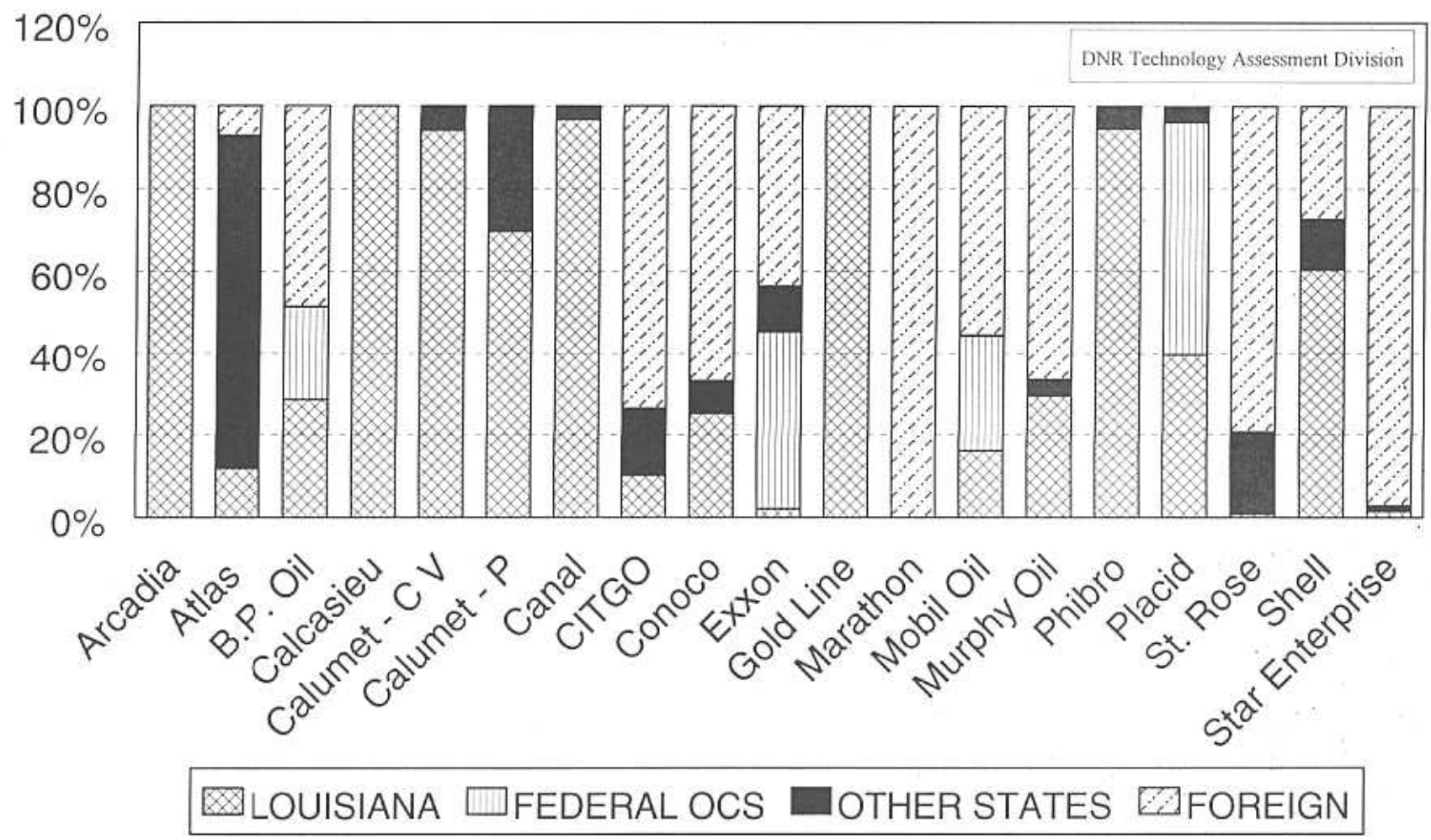
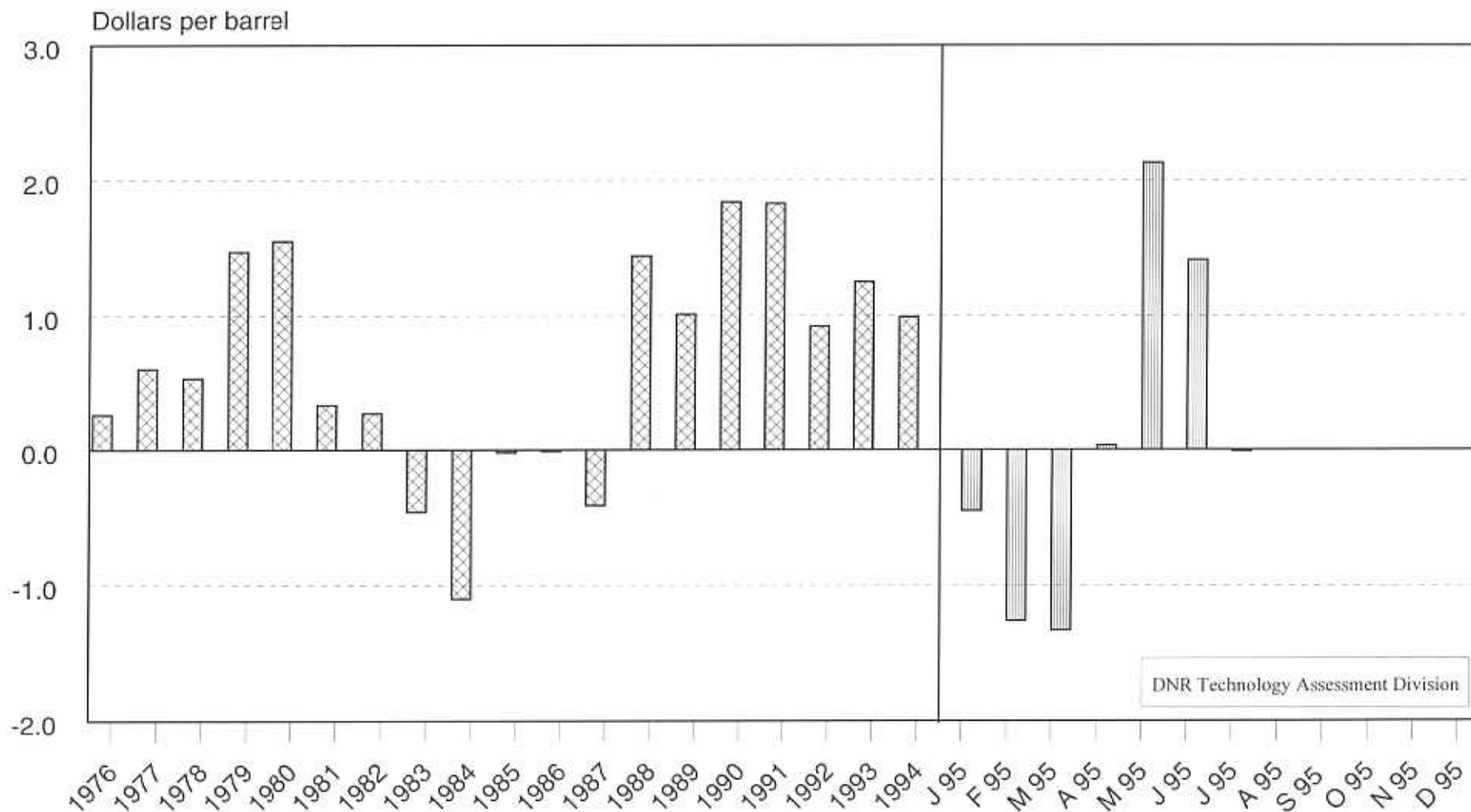


FIGURE 7
GULF COAST REFINERY MARGINS
REGIONAL AVERAGE CASH OPERATING MARGIN



Sources: 1976-March 1995: Wright Killen & Co., from Oil & Gas Journal's "Energy Statistics Sourcebook," Tenth Edition page 201.
April 1995-July 1995: Wright Killen & Co., from Oil & Gas Journal magazine.

**TABLE 4
LOUISIANA OPERATING REFINERIES
MAILING ADDRESSES & CONTACT LIST**

NAME	MAILING ADDRESS	CONTACTS	TELEPHONE
Arcadia Refining & Marketing Co. L.P. Lisbon Refinery	Box 170 Lisbon, LA 71048	Jim Nichols, Pres. & Ch. Opr. Ofcr. Jim Haynes, Ref. Mgr.	(214) 922-9094 (318) 353-2283
Atlas Processing Co. (Pennzoil)	Box 3099 Shreveport, LA 71113	Mike Wion, Plt. Mgr. John Short, Accounting Mgr.	(318) 636-2711
B. P. Oil Co. Alliance Refinery	Box 395 Belle Chasse, LA 70037	Susan Caito, Ref. Mgr. Lou McLean, Opr. Mgr.	(504) 656-7711
Calcasieu Refining Company	Box 6028 Lake Charles, LA 70606	Hank Gossen, Plt. Mgr. Tom Prudhomme, Tech. Supt.	(318) 478-2130
Calumet Lubricants Co. L.P. Cotton Valley Facility	Box 97 Cotton Valley, LA 71018	M.R. Sheets, Plt. Mgr. D.D. Parker, Mgr. Plt. Opr. & Safety	(318) 832-4236
Calumet Lubricants Co. L.P. Princeton Refinery	10234 Hwy. 157 Princeton, LA 71067	Jerry Arnold, V.P. Jeff Lang, Ref. Engr.	(318) 949-2421
Canal Refining Co.	Box 8 Church Point, LA 70525	Arron Hornsby, Ref. Mgr. Hubert Vidrine, Qual. Contr. Mgr.	(318) 684-5421
CITGO Petroleum Corp.	Box 1562 Lake Charles, LA 70601	Fred Foster, V.P. George Frondorf, Mgr. Engineering	(318) 497-6165
Conoco Inc. Lake Charles Refinery	Box 37 Westlake, LA 70669	Jim Leigh, Plt. Mgr. Dennis Stephen, Optim. Mgr.	(318) 491-5211
Exxon Co. U.S.A.	Box 551 Baton Rouge, LA 70821	William B. Rainey, Plt. Mgr. Keith Baugher, Process Mgr.	(504) 359-7711
Gold Line Refining, Ltd. Lake Charles Refinery	P. O. Drawer 18190 Lake Charles, LA 70616	Robert Batey, Plt. Mgr. Peyton Smith, Opr. Supt.	(318) 436-4185
Marathon Oil Co.	Box AC Garyville, LA 70051	Larry Echelberger, Div. Mgr. Roife Schroeder, Tech. Svcs. Mgr.	(504) 535-2241
Mobil Oil Corp. Chalmette Refinery	Box 1007 Chalmette, LA 70044	Donald J. Michael, Ref. Mgr. Tim Davis, Opr. Mgr.	(504) 279-9481
Murphy Oil U.S.A. Inc. Meraux Refinery	Box 100 Mereaux, LA 70075	Ernie Cagle, Plt. Mgr. Joey Hagmann, Mgr. Tech. Svcs.	(504) 271-4141
Phibro Energy U.S.A. Krotz Springs Refinery	Box 453 Krotz Springs, LA 70750	Ralph Youngblood, V.P. Opr. John Edmunds, Mgr. Tech. Svcs.	(318) 566-2301
Placid Refining Co.	1940 La. Hwy. #1 N. Port Allen, LA 70767	Larry Doty, V. P. & Gen. Mgr. Gary Fuller, Ref. Mgr.	(504) 387-0278
Norco Refining Co. (Shell Oil Co.)	Box 10 Norco, LA 70079	T.A. Kirkley, Norco Site Mgr. R. H. Pianzo, Business Mgr.	(504) 465-7810 (504) 465-6645
Star Enterprise	Box 37 Convent, LA 70723	Ron Anderson, Plt. Mgr. Jeff Grant, Spvsr. Plnng. & Econ.	(504) 562-7681

TABLE 5
LOUISIANA OPERATING REFINERY LOCATIONS

NAME	PHYSICAL LOCATION
Arcadia Ref. & Mktg. Co. L.P./Lisbon Refinery	Lisbon, 3mi. east on south side of La. 2.
Atlas Processing Co (Pennzoil)	Shreveport, 3333 Midway Ave., Across I-20 from State fairgrounds.
B. P. Oil Co./Alliance Refinery	Belle Chasse, 12mi. south on east side of La.23.
Calcasieu Refining Company	Lake Charles, 3mi. south at west end of Old Tank Farm Road on Ship Canal.
Calumet Lubricants Co. L.P./Cotton Valley Facility	Cotton Valley, east side of La. 7 South at city limits.
Calumet Lubricants Co. L.P./Princeton Refinery	Princeton, 5mi. north of I-20 on east side of La. 157.
Canal Refining Co.	Church Point, 2mi. north on left side of La. 178.
CITGO Petroleum Corp.	Lake Charles, I-10 exit 23, then 2mi. south on La. 108.
Conoco Inc./Lake Charles Refinery	Westlake, I-10 Sampson Rd. exit; north to Old Spanish Trail.
Exxon Co. U.S.A.	Baton Rouge, 4045 Scenic Hwy.
Gold Line Refining, Ltd./Lake Charles Refinery	Lake Charles, I-10 exit 36, north to La. 3059, left 3/4 mi.
Marathon Oil Co.	Garyville, 2 mi. toward Reserve off of U.S. 61.
Mobil Oil Corp./Chalmette Refinery	Chalmette 500 W. St. Bernard Hwy.
Murphy Oil U.S.A. Inc./Meraux Refinery	Meraux 2500 St. Bernard Hwy.
Norco Refining Co. (Shell Oil Co.)	Norco River Road in Norco.
Phibro Energy U.S.A./Krotz Springs Refinery	Krotz Springs La. 105 South in town.
Placid Refining Co.	Port Allen 1940 La. 1 North.
Star Enterprise	Convent, on La. 44 at east bank foot of Sunshine bridge.

TABLE 6
LOUISIANA NON-OPERATING REFINERIES
MAILING ADDRESSES & CONTACT LIST

NAME	MAILING ADDRESS	CONTACTS	TELEPHONE
Arcadia Refining & Marketing Co. L.P. Dubach Location	Box 170 Lisbon, LA 71048	Jim Haynes, Ref. Mgr. at Arcadia's Lisbon Plant	(318) 353-2283
Bayou State Oil Corp.	Box 7886 Shreveport, LA 71137	Charles Brown, Pres. Ellis Brown, V.P. Oper.	(318) 222-0737
Gold Line Refining, Ltd. Jennings Plant	P. O. Drawer 1050 11499 Plant Road Jennings, LA 70546	Robert Batey, Plt. Mgr. Peyton Smith, Opr. Supt.	(318) 824-2766
Petroleum Fuel & Terminal	Box T Garyville, LA 70051	Claude Phelps, Plt. Mgr. Will Louque, Term. Spvsr.	(504) 535-6256
Texas NAPCO, Inc.	228 St. Charles Ave. Suite 1435 New Orleans, LA 70130	John Pender, Bkrptcy. Trste.	(504) 581-2024
Tina Resources, Inc.	207 Firestone Drive Marble Falls, TX 78654	Leslie Vance, President	(210) 693-6923
TransAmerican Refining Corp. (Administrative Office)	1300 East North Belt Suite 320 Houston, TX 77032	Jack Stanley, CEO	(713) 986-8811
(Refinery)	Box 537 Norco, LA 70079	Gary Karr, V.P. Refining Gary Sorrells, Asst. Ref. Mgr. Glenn McGinnis, V.P. Mktg.	(504) 764-8611
U.S. Refining Co. (Administrative Office)	c/o Jade Petroleum P.O. Box 136 Newton, TX 75966	James Hughes, Owner	(409) 397-4221
(Refinery)	101 Old Ferry Road Egan, LA 70531	Elmer Lord, Caretaker	(318) 788-1300

Note: Directions to the physical locations of each non-operating refinery are given in Table 7.

TABLE 7
LOUISIANA NON-OPERATING REFINERIES
PHYSICAL LOCATIONS, LAST KNOWN CRUDE CAPACITY (barrels/calendar day), DATE LAST OPERATED, AND STATUS

NAME	PHYSICAL LOCATION	LAST KNOWN OPERATING CAPACITY	DATE LAST OPERATED	PREVIOUS NAME(S)	STATUS
Bayou State Oil Corp.	Hosston, U.S.71 North at jct. La.2 West.	3,000	2/87	NONE	No plans to reopen. Some equipment sold, but process eqpt remains operable.
Arcadia Refining & Marketing Co. L.P. Dubach Location	Dubach, 1/4 mi. west of U.S. 167 at south city limits.	10,000	6/93	Kerr-McGee Refining Co.; Dubach Gas Co. (Owned by Cornerstone Natural Gas Co., formerly known as Endevo)	Facility consists of a crude oil refinery and gas liquids fractionating plant. Refining assets sold by Cornerstone to Arcadia, which has no immediate plans to utilize refining assets. Cornerstone presently operating gas plant.
Gold Line Refining Co. Ltd. Jennings Refinery	3-1/2 mi. east of jct. U.S. 90E & La. 102 in Jennings. On Mermentau River 1mi. north of U.S. 90E at end of gravel road.	14,800	8/90	Celeron; Slapco; CAS Refining	Refinery to reopen by second quarter 1996 if financing is obtained. Refinery manager and operations supt. of Lake Charles plant will manage this facility as well.
Petroleum Fuel & Terminal Co.	Mt. Airy, exit Gramercy on La.20 to La.44(River Rd.)jct. Left 2mi.	23,000	12/86	Clark Oil & Refining/ Mt. Airy Refinery	Terminal only in use. Actively pursuing the sale of all refinery process equipment so site can be used to expand terminal.
Texas NAPCO, Inc.	St. James, 7-1/2mi. south of Sunshine Bridge on La.18.	20,000	8/83	McTan Refining Co.; LaJet	In bankruptcy since 1987. Orderly cleanup of refinery site proceeding, including demolition of steel. One lawsuit left to determine responsibility for cleanup of two aeration ponds. Eight tanks and mothballed units still on site.
Tina Resources, Inc.	Cameron Parish. Talen's landing on Intracoastal Waterway 9mi. south of jct. La. 14 & 26 in Lake Arthur via La. 14 & Parish roads 104 & 109.	7,400	2/86	Mallard Resources, Inc.; Cameron Resources, Inc.	Refinery still for sale.
TransAmerican Refining Co.	Norco, 257 Prospect Ave.	200,000	7/82	GHR Energy Corp./ Good Hope Refinery	Crude refining to begin December 1995 @ 100,000 bcd if margins adequate. Initially, only distillates will be produced. Junk bond financing of \$440 million obtained early in 1995 assures that refurbished refinery will utilize the most sophisticated methods to assure maximum operating efficiency and environmental protection.
U.S. Refining, Inc. Egan Refinery	Egan, 101 Old Ferry Road. Take I-10 exit 72; then 2mi. south on Old Ferry Road.	10,000	9/87	La. Oil & Rerefining Crystal Refining, Inc.	Negotiations for sale of refinery in progress.