

LOUISIANA CRUDE OIL REFINERY SURVEY REPORT

Ninth Edition

January 1998 Survey

Refining, Alternative Energy & Power Systems Program



LOUISIANA DEPARTMENT OF NATURAL RESOURCES

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May 28, 1998

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State of Louisiana



M.J. "MIKE" FOSTER, JR.
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SECRETARY

DEPARTMENT OF NATURAL RESOURCES

June 11, 1998

Enclosed is your copy of the ninth edition of the *Louisiana Crude Oil Refinery Survey Report* compiled by the Technology Assessment Division. The report is a compilation of information obtained from respondents contacted in a survey taken in January 1998 as well as from the Department's database and traditional industry sources. This report updates the eighth edition dated October 30, 1996.

Statistical information from survey respondents is for the twelve month period ending June 30, 1997. Charts, tables, and graphs provide historical and current information on oil production, refinery crude oil sources, refinery margins, capacities, operating rates, product slate, ownership, and key personnel.

If you have any suggestions on how the report could be improved or need additional information, please let me know. My phone number is 504-342-2122. If there are others in your organization who would like a copy of this report and would like to be placed on our refinery report mailing list, please complete and return the enclosed form.

Sincerely,

Sam Stuckey
Sam Stuckey, P.E.
Senior Energy Engineer

Enclosure

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REQUEST FORM

**for Louisiana Department of Natural Resources Report titled
LOUISIANA CRUDE OIL REFINERY SURVEY REPORT
(January 1998 Survey)**

Please list other persons in your organization who should receive a copy of the January 1998 survey report.

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Please Mail or Fax (504-342-2707) the completed form to:

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A catalytic cracking unit, used to increase the yield of gasoline from crude oil.

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 previous survey was published in October 1996.

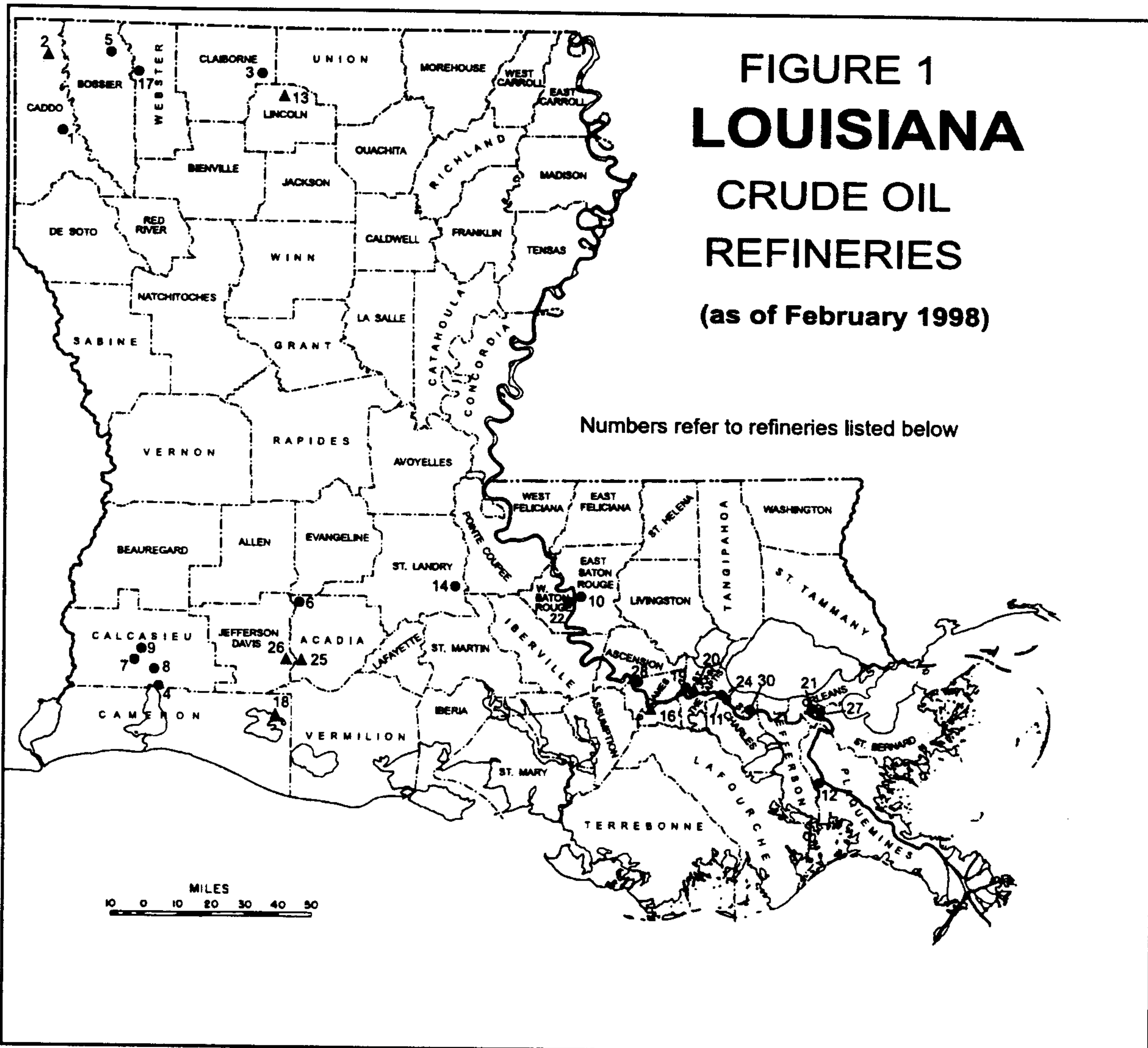
The information contained in this annual Technology Assessment Division report is designed to complement the information presented in the refinery section of the Department of Energy/Energy Information Administration (DOE/EIA) Petroleum Supply Annual, now published biennially for the previous two calendar 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. This edition is about six months late due to personnel turnover within DNR.

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 used in DOE/EIA publications. It is important to note the slight difference in meaning between *operable* versus *operating* when used to specify capacity or utilization rate. 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.

FIGURE 1
LOUISIANA
CRUDE OIL
REFINERIES
 (as of February 1998)



OPERATING REFINERIES ●

- 1 Pennzoil Products Co./Shreveport
- 3 Padre Refining Co./Lisbon
- 4 Calcasieu Refining Company/Lake Charles
- 5 Calumet Lubricants Co., L.P./Princeton
- 6 Canal Refining Co./Church Point
- 7 American International Refinery, Inc./Lake Charles
- 8 CITGO Petroleum Corp./Lake Charles
- 9 Conoco Inc./Lake Charles
- 10 Exxon Co., U.S.A./Baton Rouge
- 11 TransAmerican Refining Co./Norco
- 12 B.P. Oil Co./Belle Chasse
- 14 Valero Refining Co. - Louisiana/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 Shell Oil Co./Norco
- 27 Mobil Oil Corp./Chalmette
- 28 Star Enterprise/Convent
- 30 Shell Chemical/St. Rose

NON-OPERATING REFINERIES ▲

- 2 Bayou State Oil Corp./Hosston
- 13 El Paso Field Services/Dubach
- 16 Texas NAPCO, Inc./St. James
- 18 Tina Resources, Inc./Talen's Landing
- 20 Petroleum Fuel & Terminal C./Mt. Airy
- 25 U.S. Refining Co./Egan
- 26 Gold Line Refining, Ltd./Jennings

DISCUSSION

Overview

During this reporting period, Louisiana refineries continued to focus primarily on projects to improve profitability. These included process reconfigurations to improve efficiency or alter the product mix to include more higher value products. Since June 1996, these projects have resulted in a total crude capacity increase of almost 70,000 barrels per calendar day (bcd).

Of the twenty refineries that operated during the year ending June 30, 1997, seven produced reformulated gasoline (RFG) for sale in those markets where the U.S. Environmental Protection Agency (EPA) had mandated its use effective January 1, 1995. None of these areas are in Louisiana. RFG accounted for 12.5% 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.

For the twelve month period ending June 30, 1997, total Louisiana refinery operating rates increased slightly. While there were some changes in the product mix of individual refineries, the overall mix remained about the same and the trend to less mid-grade gasoline production continued. 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, based on data published by the U.S. Department of Energy (DOE).

Recent Changes

The Krotz Springs facility most recently operated under Basis Petroleum is now operated by Valero Refining Company.

The Lisbon refinery previously operated by Arcadia Refining and Marketing Co. is now operated by Padre Refining Company. This facility has been idle since July 1997.

Canal Refining Company's facility at Church Point was shut down in May 1997.

TransAmerican Refining Company (Good Hope) did not produce during the reporting period, but will restart in May 1998. The product slate will depend upon the crude supplied, and has not yet been specified.

The Gold Line Company shut down and vacated its Lake Charles facility in March 1997. American International Refinery, Inc., took over the Lake Charles facility, completed an expansion project, and resumed production in January 1998. Gold Line transferred operations to the Jennings refinery and initiated startup in April or May 1997 but reportedly had no measurable production during the reporting period. Gold Line subsequently shut down the Jennings refinery in February 1998. Gold Line production figures for both Lake Charles and Jennings operations were never received.

Operating Refineries

The total operating capacity of 2,543,653 barrels per calendar day (bcd) reported as of June 30, 1997, is essentially unchanged from our October 1996 survey. The overall operating rate improved slightly to 91.4% from 91.2%. This compares with the national rate of 95.0% for calendar year 1996. 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 1947-1996.

The following changes to refinery operating capacities were reported:

Company/Refinery	Previous Operating Capacity (BCD)	Previous Idle Capacity (BCD)	New Operating Capacity (BCD)	New Idle Capacity (BCD)	Net Increase (Decrease) (BCD)
BP Oil - Alliance	250,000	0	250,600	9,400	10,000
Calcasieu - Lake Charles	13,300	0	13,500	0	200
Calumet - Cotton Valley	8,900	0	9,000	0	100
Calumet - Princeton	8,000	300	8,000	1,415	1,115
Canal	8,000	2,000	7,500	2,500	0
Conoco - Lake Charles	195,500	0	236,000	0	40,500
Exxon - Baton Rouge	424,000	0	432,000	0	8,000
Mobil Oil - Chalmette	191,000	0	175,000	10,000	(6,000)
Padre - Lisbon	12,000	0	0	10,000	(2,000)
Placid	47,500	0	48,000	0	500
Shell - Norco	220,000	0	225,000	0	5,000
Shell - St.Rose	32,400	7,600	40,000	0	0
Star - Convent	225,000	0	232,400	0	7,400
TransAmerican	100,000	100,000	70,000	130,000	0
Valero - Krotz Springs	60,000	0	65,000	0	5,000
Net Change					69,815

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 16% 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 58%, the Offshore Continental Shelf (OCS) is next at 21%, and other states at 5%. These percentages are essentially the same as reported in the previous edition of this report. Figure 5 shows the historical sources of crude oil for Louisiana refineries for the period 1981-1997. Generally, the smaller refineries use a greater percentage of Louisiana crude than the large refineries to satisfy their total requirements. Figures 6A and 6B show the percentage crude source for each Louisiana refinery for 1997.

Since the beginning of 1997, the monthly Gulf Coast Refinery Margin has remained positive except for January 1997. The cash operating margin varied from -\$0.33/barrel in January to a maximum of +\$1.51 per barrel during the first half of the year. Figure 7 shows the yearly average cash margins for the period 1976-1996, and 1997 months for which data is available.

Shell/Texaco/Aramco Refining Merger

The U. S. Federal Trade Commission approved the merger of certain U.S. downstream assets of Texaco, Inc., Shell Oil Co., and Saudi Arabian Oil Co. (Saudi Aramco), pending the divestiture of selected assets. The companies intend to form two limited liability ventures combining major portions of their U.S. refining, marketing, transportation, trading, and lubricants operations.

One company will comprise the eastern U.S. and Gulf Coast refining and marketing businesses of Texaco, Shell, and Saudi Refining, Inc. Ownership in this eastern alliance will be 35% Shell, 32.5% Texaco, and 32.5% Saudi Refining, Inc.

The western alliance ownership will be 56% Shell and 44% Texaco. The alliances will market gasoline under both Texaco and Shell brands.

The eastern alliance is not required to divest any assets. The western alliance must divest Shell's Anacortes, WA, refinery, interests in Colonial or Plantation Pipelines, selected retail outlets in San Diego, CA, and either Shell's terminal and stations in Hawaii or Texaco's terminal and stations on Oahu, HI.

The Shell Chemical Co. refineries at Saraland, AL, and St. Rose, LA, are excluded from the deal. The resulting merger will include four Shell refineries (including the Norco, LA, refinery), four Texaco refineries, and three Star Enterprise refineries (including the Convent, LA, facility). The western alliance was expected to begin operating in the first quarter of 1998.

Mobil - Lagoven Agreement

Mobil signed an agreement with Lagoven, a unit of Venezuela's state-owned oil company, and Veba covering the Cerro Negro extra-heavy oil upgrading project in Venezuela's Orinoco belt. As reported in the last edition, the 50-50 joint venture with Mobil and another Pdvsa subsidiary, PDV Chalmette, resulted in Chalmette Refining LLC as owner and operator of Mobil's Chalmette refinery where the upgraded crude will be processed..

Cerro Negro production is scheduled to begin in 1999 at 60,000 bpd and increase to 120,000 bpd in 2001. Chalmette Refining's share of upgraded crude (100,000 bpd) will be processed at the refinery, which requires only minor modifications to enable it to process the heavy crude. The remaining 20,000 bpd of production that is Veba's share will be processed in German refineries in which Pdvsa also holds interests.

Other Heavy Crude Ventures

Conoco and Pdvsa's Maraven unit are proceeding with another upgrading project planned in the Orinoco heavy oil belt. Oil will be shipped from the field area, south of Pariaguan in Anzoategui state, to Jose through a 200-km pipeline. Blended first oil is slated in August 1998, and a heavy oil upgrader at the Jose industrial complex on the northern coast will be completed in 2001. From Jose, 63,000 bpd will be shipped to Conoco's Lake Charles refinery, and Maraven will buy 39,000 bpd from Conoco for processing at its Cardon refinery.

Exxon and Pdvsa unit Corpoven signed a memorandum of understanding to produce, upgrade, and market extra-heavy crude from the Orinoco's Hamaca area. The Hamaca crude will be upgraded at Jose to a syncrude for processing at Exxon's Baton Rouge and Baytown, Texas, refineries.

Gasoline Additive: Methylcyclopentadienyl Manganese Tricarbonyl (MMT)

The gasoline additive, Methylcyclopentadienyl Manganese Tricarbonyl (MMT), produced by Ethyl Corporation was approved for sale in the U.S. in 1995. MMT improves the burning efficiency and octane of gasoline. Ethyl claims that the new additive will reduce millions of pounds of smog-related pollutants per year from the environment. The additive will reduce carbon monoxide and nitrogen oxide emissions.

However, the Environmental Protection Agency (EPA) considers MMT a possible health risk because it contains the metal, manganese. EPA points out that exposure to manganese dust has been found to cause neurological and respiratory damage. Ethyl claims that tailpipe emissions are low and would not pose a health hazard. MMT was approved when a federal appeals court ruled in 1995 that the federal government, without evidence of a significant public health risk, had no authority under the Clean Air Act to block the sale of MMT.

Now the EPA has determined that further testing of long-term health effects, as well as the effects of the additive on emissions-control equipment, is required before MMT can be used in the U.S. without restriction.

Ethyl has been supplying MMT to refineries, but refiners are using caution in deciding to use MMT because of the controversy regarding its health risks and other EPA concerns.

Although MMT has been used in Canada for the last nineteen years, Canada's parliament has approved legislation banning use of MMT. Ethyl Corp. has filed a claim with the U.S. Justice Department against the Canadian government, seeking compensation under the North American Free Trade Agreement. Ethyl Corp. claims that the Canadian legislation bars only the importation of MMT, not its use.

Non-Operating Refineries

Arcadia Refining and Marketing Co. had two plants, one at Lisbon and the other at Dubach. The Lisbon plant had been shut down in January 1996, but was recently acquired by Padre Refining Company and resumed production until July 1997. The Dubach plant stopped taking crude as of July 1, 1993, and was reclassified by DNR as a non-operating refinery. El Paso Field Services now owns the Dubach facility, which consists of a crude oil refinery and a gas liquids fractionating plant. The refinery remains shut down, but the gas plant is operating although the liquids fractionating unit was shut down in January 1998.

The Jennings refinery that was restarted by Gold Line in May 1997, following Gold Line's departure from their Lake Charles refinery in March 1997, was again shut down in late February 1998. The owner of this facility is attempting to work something out with a bankruptcy court. Meanwhile, the Lake Charles facility was taken over by American International Refinery, Inc., and has resumed operation with naphtha, diesel, and asphalt products.

The TransAmerica Refinery is still in active status, but did not produce anything during the 1996-1997 reporting period. The refinery is expected to begin production in May 1998.

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 7. Physical locations, last known crude capacity, date last operated, and present status are described in Table 8.

Conclusion

The resources of the industry continue to be applied toward more potentially profitable ventures in the private marketplace. Restructuring and redeployment of assets continues as each company strives toward maximum efficiency and profits. Foreign imports of both crude oil and products continue to increase on a national (U.S.) basis, and operating refineries continue at high utilization rates across the country. Louisiana refineries exceed U.S. national import rates for crude oil (58% versus about 50% nationally). Given historical low product prices, uncertainty in near term crude oil prices, uncertainty in availability of crude oil supply, and potential Strategic Petroleum Reserve sales for purposes other than originally envisioned, Louisiana refinery operators face some hard decisions. Some small refineries may be forced to shut down because of these uncertainties coupled with the absence of ability to initiate capital improvements and additions which would enable operations with a wider variety of crude input or a wider product slate.

More joint ventures and alliances will likely occur in the coming months. Resulting effects on Louisiana crude oil refinery operations will be reported in the next edition of this report.

TABLE 1
LOUISIANA OPERATING REFINERIES
CRUDE CAPACITY (BCD) AND PERCENT PRODUCT SLATE
January 1998 DNR Survey

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

REFINERY NAME	DNR FAC. CODE	OPERATING CAPACITY As of June 30, 1997 (BCD)	IDLE CAPACITY (BCD)	OPERATING RATE * (%)	12-MONTH THROUGHPUT 1 July 96- 30 June 97 (Barrels)
B. P. Oil Co. - Alliance	STN	250,600	9,400	95.4	90,560,267
Calcasieu Refining Co.	CLC	13,500	0	97.0	4,781,410
Calumet Lubricants - Cotton Valley	CTT	9,000	0	65.7	2,157,358
Calumet Lubricants - Princeton	CLM	8,000	1,415	69.9	2,403,160
Canal Refining Co.	CNL	7,500	2,500	55.2	2,015,000
Citgo Petroleum Corp.	CTS	310,000	0	89.2	100,965,286
Conoco, Inc. - Lake Charles	CNB	224,153 ^A	0	87.0	71,156,630
Exxon Co. U.S.A.	EXX	432,000	0	99.9	157,570,500
GoldLine Refining Co. - Jennings	SLP	14,800 ^{B, C}	Unknown		
GoldLine Refining Co. - Lake Charles	KKC	17,500 ^B	2,500	41.7	3,045,690
Marathon Oil Co.	MRT	255,000	0	86.9	80,893,605
Mobil Oil Co. - Chalmette	TNN	175,000	10,000	75.9	51,246,000
Murphy Oil U.S.A., Inc.	MRP	100,000	0	99.4	36,282,583
Padre Refining Co. - Lisbon	CLB	0	10,000	11.5	418,170
Pennzoil Products Co.	ATL	46,200	0	88.1	14,859,150
Placid Refining Co.	PLC	48,000	0	99.3	17,390,826
Shell Oil Co. - Norco	SHL	225,000	0	98.2	80,628,006
Shell Oil Co. - St. Rose **	INT	40,000	0	100	14,600,000
Star Enterprise - La. Plant	TXC	232,400	0	93.5	79,308,000
TransAmerican Refining	GDH	70,000 ^C	130,000 ^C	0	
Valero Refining Co. - La.	HLL	65,000	0	94.5	22,417,583
WEIGHTED STATE AVERAGE (%)				91.4	
TOTAL LA. OPERATING CAPACITY		2,543,653	165,815		832,699,224

Footnotes are located on page 10.

TABLE 1 (continued)
LOUISIANA OPERATING REFINERIES
CRUDE CAPACITY (BCD) AND PERCENT PRODUCT SLATE
January 1998 DNR Survey

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	COKE/ RESID	PROD. 1	PROD. 2	PROD. 3	ALL OTHER
STN	33.6	0	12.3	0	29.0	15.5	0	2.6	0	1.6	3.7 Petrochem.	1.7 Carbon Black Feed	0	0
CLC	0	0	0	0	25.6	17.1	18.3	3.8	34.6	0	0	0	0	0
CTT	0	0	0	0	1.0	0	0	0	50.0	0	27.0 Gas Oil	22.0 Lt. Str. Run	0	0
CLM	0	0	0	0	10.0	0	0	0	0	0	72.0 Lube Oil	18.0 Asphalt	0	0
CNL	15.0	8.0	0	0	60.0	0	0	2.0	0	15.0	0	0	0	0
CTS	30.8	0	8.5	9.6	8.3	17.8	3.3	2.1	0	6.9	2.6 Petrochem.	2.3 Lubes	0	7.7
CNB	16.0	0	6.0	10.0	32.0	18.0	2.0	1.0	4.0	11.0	0	0	0	0
EXX	21.3	0.9	8.4	7.4	17.4	12.9	4.7	2.0	0.1	4.3	13.1 Exxon Chemicals	3.8 Internal Fuels	3.1 Lubes/Wax	0.6
SLP														
KKC	0	0	0	19.9	37.0	0	0	1.3	25.3	0	16.5 Gas Oil	0	0	0
MRT	43.3	0	10.2	0	0	1.6	29.8	5.1	0.3	9.3	0.4 Sulfur	0	0	0
TNN	37.5	0	8.8	0.5	17.7	13.3	7.0	6.0	0	6.5	2.7 Aromatics	0	0	0
MRP	37.0	0	10.0	0	28.0	8.0	14.0	3.0	0	1.0	0	0	0	0
CLB	0	0	0	0	21.0	0	24.0	0	55.0	0	0	0	0	0
ATL	17.8	2.0	0.1	0	17.5	17.4	0	0.3	3.9	6.3	18.8 Lubes/ Motor Oil	5.5 Catfeed	2.2 Waxes	7.9
PLC	38.2	0	4.3	0	28.6	10.7	5.6	0.4	0.9	0	5.0 Subgrade	0.1 Gas Oil	3.0 Propylene	3.2
SHL	38.2	0.3	10.8	7.2	16.8	11.7	4.3	5.3	0.1	3.6	1.7 MTBE	0.1 Sulfur	0	0
INT	0	0	0	0	18.0	0	0	0	0	15.0	64.0 Olefin Plant Feed	3.0 Off Gas	0	0
TXC	31.7	0.9	2.7	11.8	18.7	12.3	13.9	2.2	0.2	0	0.9 Sulfur	2.1 Petrochem. Feed	0.2 MTBE	0
GDH	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HLL	23.3	0	2.8	0	18.0	16.8	0	1.3	12.2	0	23.3 Gas Oil	2.3 Lt. Str. Run	0	0
%	29.4	0.3	7.9	5.4	18.1	12.5	7.4	2.8	1.3	4.9	6.2	1.7	0.7	1.3

Footnotes for Table 1:

Percentages may not sum precisely due to independent rounding.

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

** St. Rose Refinery makes light and heavy components which are used as feedstock to Shell's chemical plant.

A: Average for the period. Operating capacity was 236,000 BCD beginning October 1996.

B: Information not provided by refinery operator. Data listed is DNR estimate based upon past reports. See text for additional comments.

C: Not used in weighted average calculation.



TABLE 2
U.S. DEPARTMENT OF ENERGY
CAPACITY OF LOUISIANA OPERABLE PETROLEUM REFINERIES AS OF JANUARY 1, 1997
(Barrels per Stream Day, Except Where Noted)

REFINER/ LOCATION	DNR FAC. CODE	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
BP Oil Corp. Belle Chasse (Alliance)	STN	250,400	0	255,000	0	93,000	25,800	0	0	0
Calcasieu Refining Co. Lake Charles	CLC	14,000	0	14,500	0	0	0	0	0	0
Calumet Lubricants Co. L.P. Cotton Valley	CTT	7,800	0	8,500	0	0	0	0	0	0
Calumet Lubricants Co.L.P. Princeton	CLM	8,300	0	8,700	0	6,000	0	0	0	0
Canal Refining Co. Church Point	CNL	9,500	0	10,000	0	0	0	0	0	0
Citgo Petroleum Corp. Lake Charles	CTS	305,000	0	320,000	0	83,000	94,000	0	0	0
Conoco Inc. Westlake	CNB	226,000	0	236,000	0	115,500	65,000	0	0	12,000
Exxon Co. U.S.A. Baton Rouge	EXX	432,000	0	450,000	0	199,500	103,000	0	0	0
Gold Line Refining Ltd. Lake Charles	KKC	27,600	0	30,000	0	18,000	0	0	0	0
Marathon Oil Co. Garyville	MRT	255,000	0	263,000	0	125,000	0	0	0	0
Mobil Oil Corp. Chalmette	TNN	159,000	0	190,000	0	100,000	33,000	0	0	0
Murphy Oil U.S.A. Inc. Meraux	MRP	95,000	0	100,000	0	50,000	0	0	0	0
<i>Padre Refining Co. ** Lisbon</i>	CLB	7,350	0	7,500	0	0	0	0	0	0
Pennzoil Products Co. Shreveport	ATL	46,200	0	50,000	0	24,300	0	0	0	0
Placid Refining Co. Port Allen	PLC	48,500	0	49,500	0	20,000	0	0	0	0
St. Rose Refining Inc. * St. Rose	INT	38,000	0	40,000	0	24,000	0	0	0	0
Shell Oil Co. Norco	SHL	218,000	0	225,000	0	78,000	26,000	0	0	0
Star Enterprise Convent	TXC	230,000	0	235,000	0	119,400	0	0	13,000	0
TransAmerican Refining Co. Good Hope (Norco)	GDH	0	0	0	0	240,000	0	0	0	0
Valero Refining Co. - La. Krotz Springs	HLL	60,000	0	61,500	0	0	0	0	0	0
LOUISIANA TOTALS		2,437,650	0	2,554,200	0	1,295,700	346,800	0	13,000	12,000

* Estimated capacities. This facility is more correctly identified as Shell Chemical plant.

** Added to this table by DNR

Source: Energy Information Administration/Petroleum Supply Annual 1996, Volume 1, Table 38 [DOE/EIA-340(96)/1], June 1997

TABLE 2 (Continued)
U.S. DEPARTMENT OF ENERGY
CAPACITY OF LOUISIANA OPERABLE PETROLEUM REFINERIES AS OF JANUARY 1, 1997
(Barrels per Stream Day, Except Where Noted)

REFINER/ LOCATION	DNR FAC. CODE	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	
BP Oil Corp. Belle Chasse (Alliance)	STN	105,000	2,000	0	0	42,000	0	48,000	58,000	0	0
Calcasieu Refining Co. Lake Charles	CLC	0	0	0	0	0	0	0	0	0	0
Calumet Lubricants Co. L.P. Cotton Valley	CTT	0	0	0	0	0	0	3,600	0	0	0
Calumet Lubricants Co.L.P. Princeton	CLM	0	0	0	0	0	0	0	0	7,000	0
Canal Refining Co. Church Point	CNL	0	0	0	2,100	0	0	0	0	0	0
Citgo Petroleum Corp. Lake Charles	CTS	130,000	0	45,000	86,000	20,000	60,000	116,000	30,000	23,000	0
Conoco Inc. Westlake	CNB	51,000	0	28,000	47,000	0	0	50,000	128,500	13,000	0
Exxon Co. U.S.A. Baton Rouge	EXX	215,000	0	24,000	70,000	0	0	123,000	89,000	50,700	0
Gold Line Refining Ltd. Lake Charles	KKC	0	0	0	0	0	0	0	0	0	0
Marathon Oil Co. Garyville	MRT	95,000	0	0	45,000	0	71,000	50,000	45,000	0	30,000
Mobil Oil Corp. Chalmette	TNN	68,000	0	20,000	19,000	28,000	43,000	45,000	27,000	0	0
Murphy Oil U.S.A. Inc. Meraux	MRP	38,000	0	0	18,000	0	27,500	22,000	15,000	0	0
<i>Padre Refining Co. ** Lisbon</i>	CLB	0	0	0	0	2,500	0	4,200	0	0	0
Pennzoil Products Co. Shreveport	ATL	0	0	0	10,000	0	8,900	10,000	10,000	1,200	0
Placid Refining Co. Port Allen	PLC	19,000	2,000	0	10,000	0	0	10,000	0	0	5,000
St. Rose Refining Inc. * St. Rose	INT	0	0	0	0	0	0	0	0	0	0
Shell Oil Co. Norco	SHL	110,000	0	39,000	40,000	20,000	0	34,000	40,000	0	0
Star Enterprise Convent	TXC	87,000	0	52,000	0	40,000	32,000	41,000	96,400	0	0
TransAmerican Refining Co. Good Hope (Norco)	GDH	0	0	0	0	0	0	0	0	0	0
Valero Refining Co. - La. Krotz Springs	HLL	28,000	0	0	0	14,000	0	14,000	0	0	0
LOUISIANA TOTALS		946,000	4,000	208,000	347,100	166,500	242,400	570,8000	538,900	94,900	35,000

* Estimated capacities. This facility is more correctly identified as Shell Chemical plant.

** Added to this table by DNR

TABLE 3
U.S. DEPARTMENT OF ENERGY and LOUISIANA DEPARTMENT OF NATURAL RESOURCES
PRODUCTION CAPACITY OF LOUISIANA OPERABLE PETROLEUM REFINERIES
AS OF JANUARY 1, 1997
(Barrels per Stream Day, Except Where Noted)

Refiner/Location	DNR Fac. Code	Production Capacity								
		Alkylates	Aromatics	Asphalt & Road Oil	Isomers		Lubricants	Marketable Petroleum Coke	Hydrogen (Mmcfd)	Sulfur (short tons per day)
					Isobutane	Isopentane & Isohexane				
BP Oil Corp. Belle Chasse (Alliance)	STN	38,000	8,900	0	0	0	0	5,289	40	125
<i>Calcasieu Refining Co. *</i> <i>Lake Charles</i>	<i>CLC</i>									
Calumet Lubricants Co. L.P. Princeton	CLM	0	0	1,700	0	0	6,600	0	5	2
<i>Calumet Lubricants Co. L.P. *</i> <i>Cotton Valley</i>	<i>CTT</i>									
<i>Canal Refining Co. *</i> <i>Church Point</i>	<i>CNL</i>									
Citgo Petroleum Corp. Lake Charles	CTS	23,000	4,000	0	0	28,000	9,600	22,500	0	690
Conoco, Inc. Westlake	CNB	8,000	0	0	0	0	18,000	18,250	0	750
Exxon Co. U.S.A. Baton Rouge	EXX	35,800	0	12,000	0	0	19,000	26,000	19	672
<i>Gold Line Refining Ltd. *</i> <i>Lake Charles</i>	<i>KKC</i>									
Marathon Oil co. Garyville	MRT	27,000	0	40,000	12,000	10,000	0	0	0	504
Mobil Oil Corp. Chalmette	TNN	19,000	8,000	0	0	0	0	7,750	0	198
Murphy Oil U.S.A., Inc. Meraux	MRP	8,500	0	18,000	0	0	0	0	0	130
<i>Padre Refining Co. *</i> <i>Lisbon</i>	<i>CLB</i>									
Pennzoil Producing Co. Shreveport	ATL	0	0	3,600	0	0	9,100	0	6	13
Placid Refining Co. Port Allen	PLC	4,000	0	0	0	0	0	0	0	8
<i>Shell Chemical Co. *</i> <i>St. Rose</i>	<i>INT</i>									
Shell Oil Co. Norco	SHL	17,000	0	0	0	0	0	7,000	70	157
Star Enterprise Convent	TXC	16,500	0	0	0	12,500	0	0	63	819
<i>TransAmerican Refining Co. *</i> <i>Good Hope</i>	<i>GDH</i>									
<i>Valero Refining Co. - La. *</i> <i>Krotz Springs</i>	<i>HLL</i>									
LOUISIANA TOTALS		196,800	20,900	75,300	14,700	51,300	62,300	86,789	203	4,078

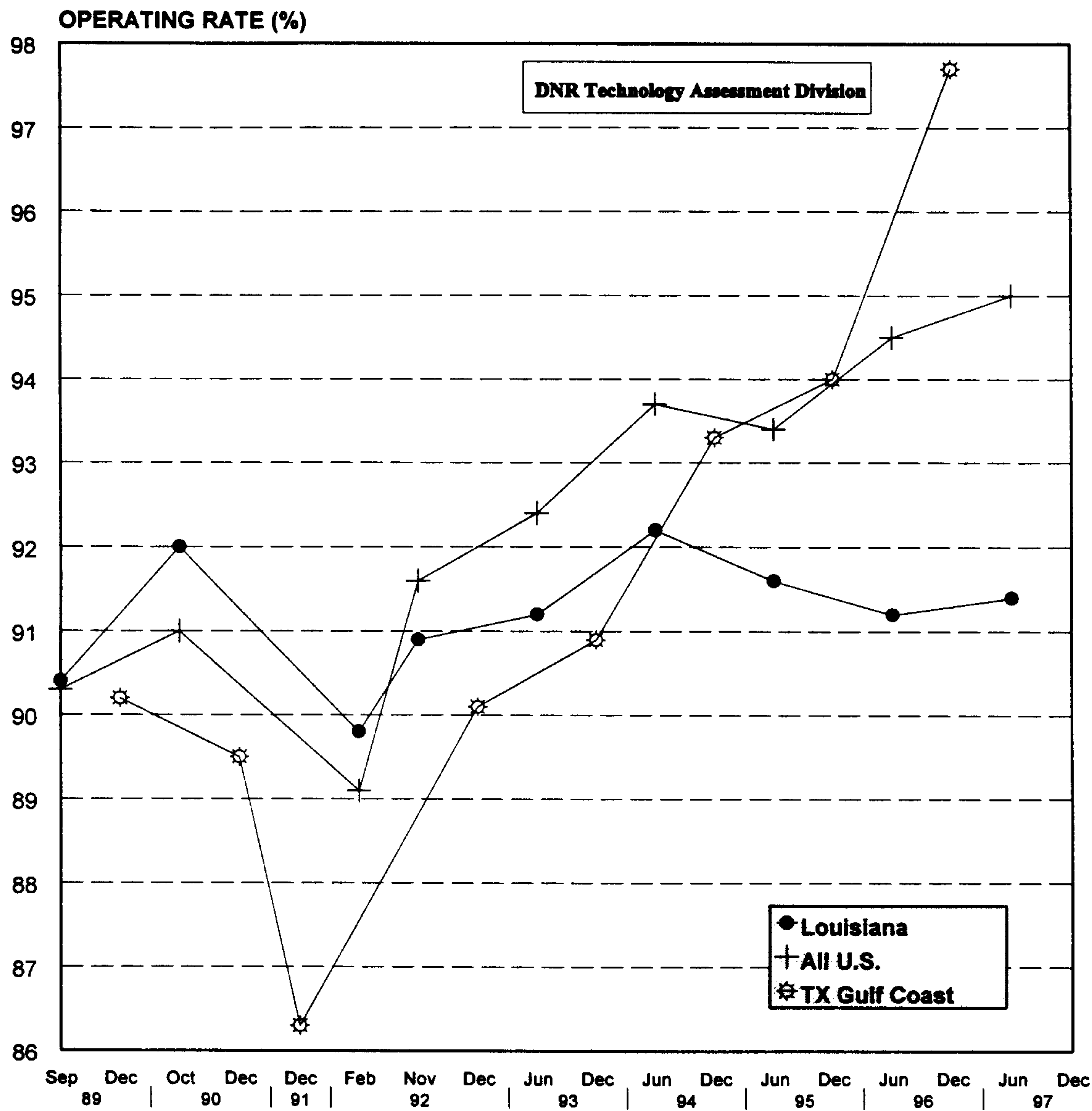
Mmcfd = Million cubic feet per day

* Information not included in DOE Table 39

Source: Energy Information Administration/Petroleum Supply Annual 1996, Volume 1, Table 39 [DOE/EIA-0340(96)/1], June 1997, and La. DNR Survey, January 1998

FIGURE 2

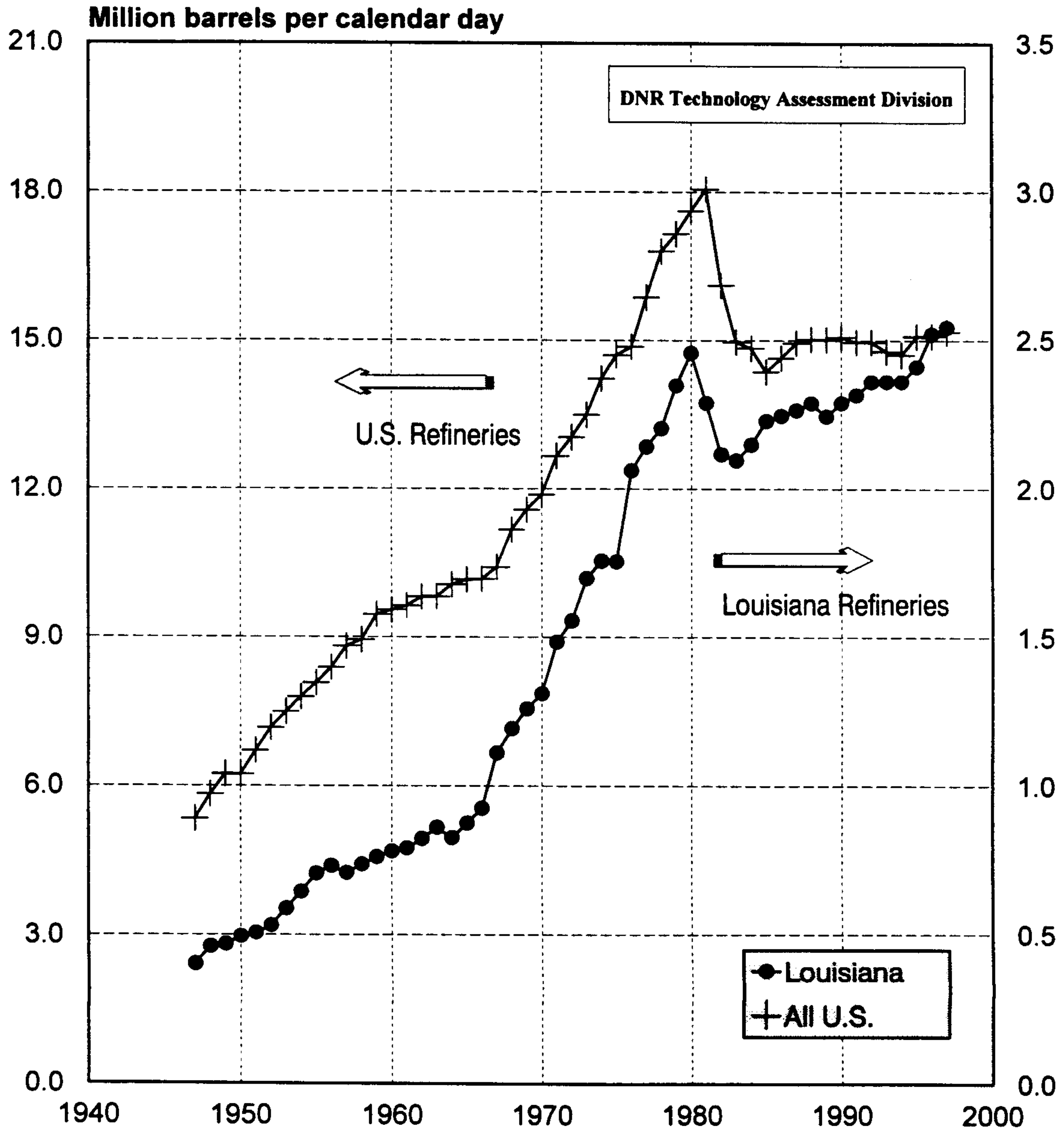
**OPERATING RATES (%)
OF LOUISIANA, TEXAS GULF COAST*, AND ALL U.S. REFINERIES**



Source: LA Refineries-DNR Refinery Survey
 TX Refineries-EIA Petroleum Supply Annuals,
 1989-1996, Table 16
 U.S. Refineries-EIA Petroleum Supply Monthly,
 Vol. 1, 12/89 12/91, 1/93, 9/93, 94, 95, 96, 2/98;
 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 Petricio,
 Nueces, Kleberg, Kenedy, Wilacy, and Cameron

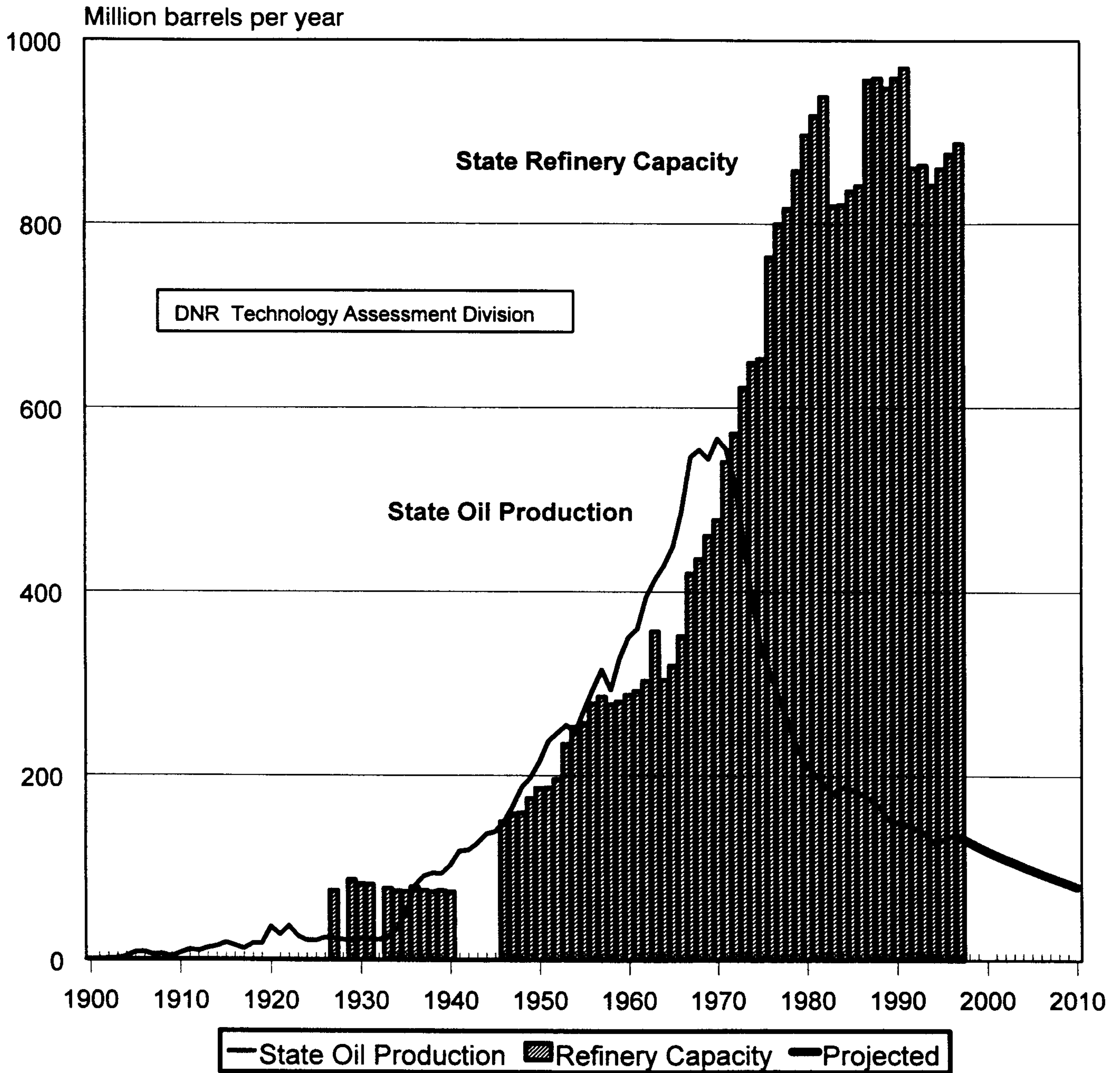
FIGURE 3
OPERATING CAPACITY
OF LOUISIANA AND U.S. REFINERIES



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

Source : U.S. Refinery Capacity - Basic Petroleum Data Book, Petroleum Industry Statistics, American Petroleum Institute, Volume XVII, No. 2, July 1997, Section VIII, Table 4; and DOE/EIA Petroleum Supply Monthly, February 1998, Table H2.

**FIGURE 4
LOUISIANA OIL PRODUCTION AND
REFINERY OPERABLE CAPACITY**



Source: Oil Production - DNR Database
 Refinery Capacity - DNR Energy Database and DOE/EIA Petroleum Supply Annual, Volume I, Table 38
 NOTE: 1979 Capacity is estimated

FIGURE 5

HISTORICAL REFINERY INPUT BY SOURCE

Source: La. DNR Database

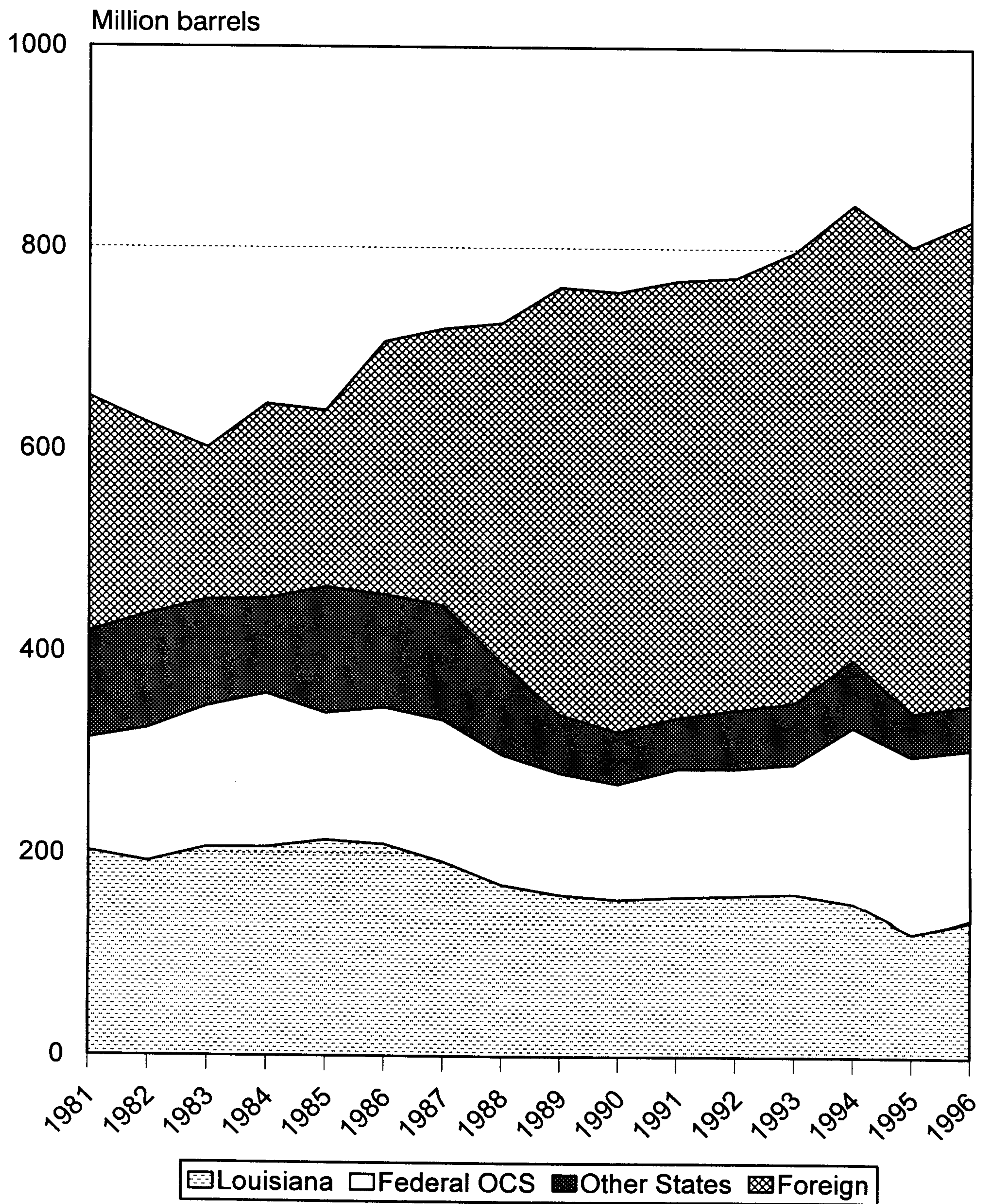


FIGURE 6A

1996 REFINERY CRUDE OIL INPUT PERCENTAGE
BY SOURCE BY COMPANY

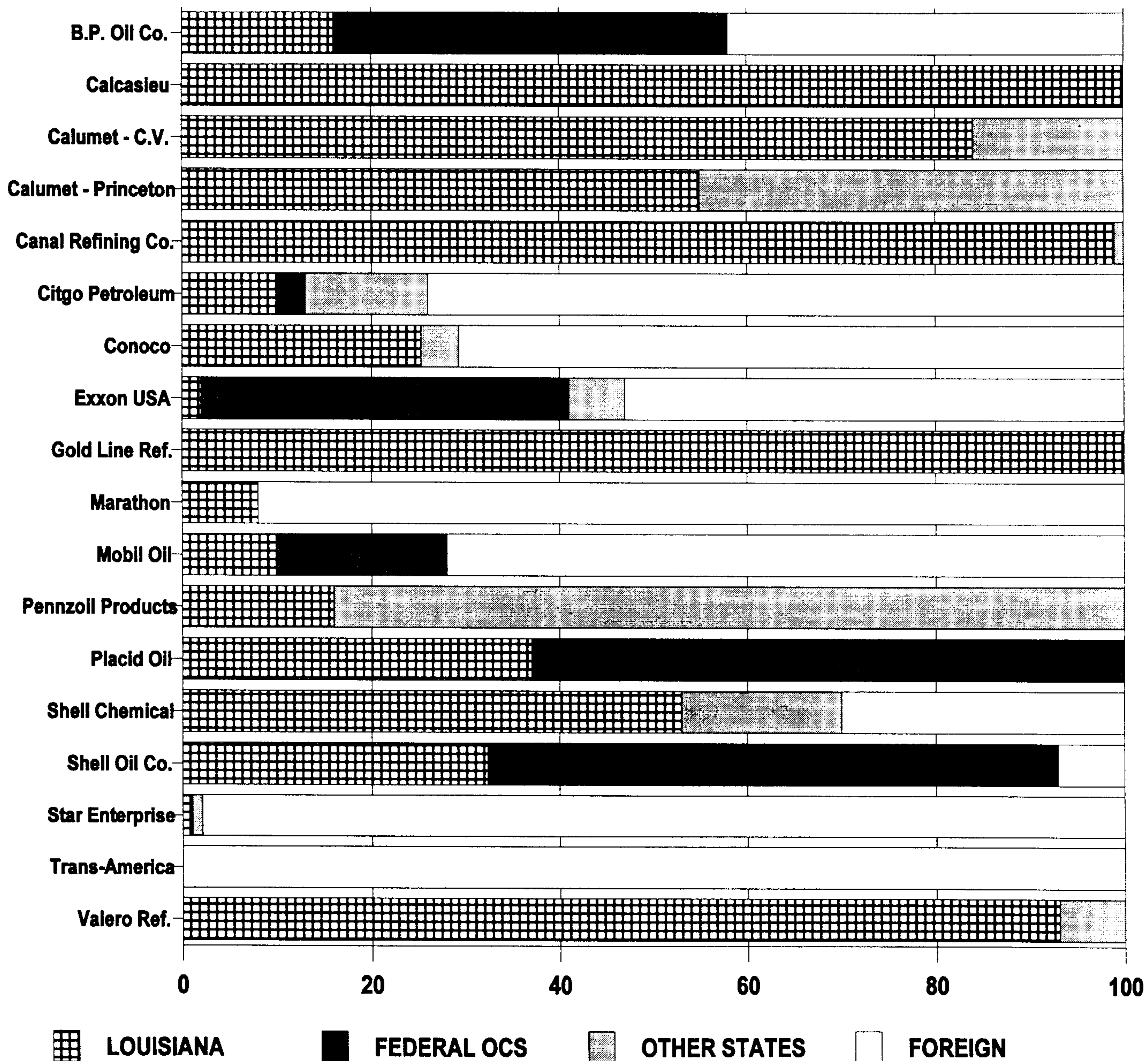


FIGURE 6B

1996 REFINERY CRUDE OIL INPUT PERCENTAGE
SORTED BY SOURCE

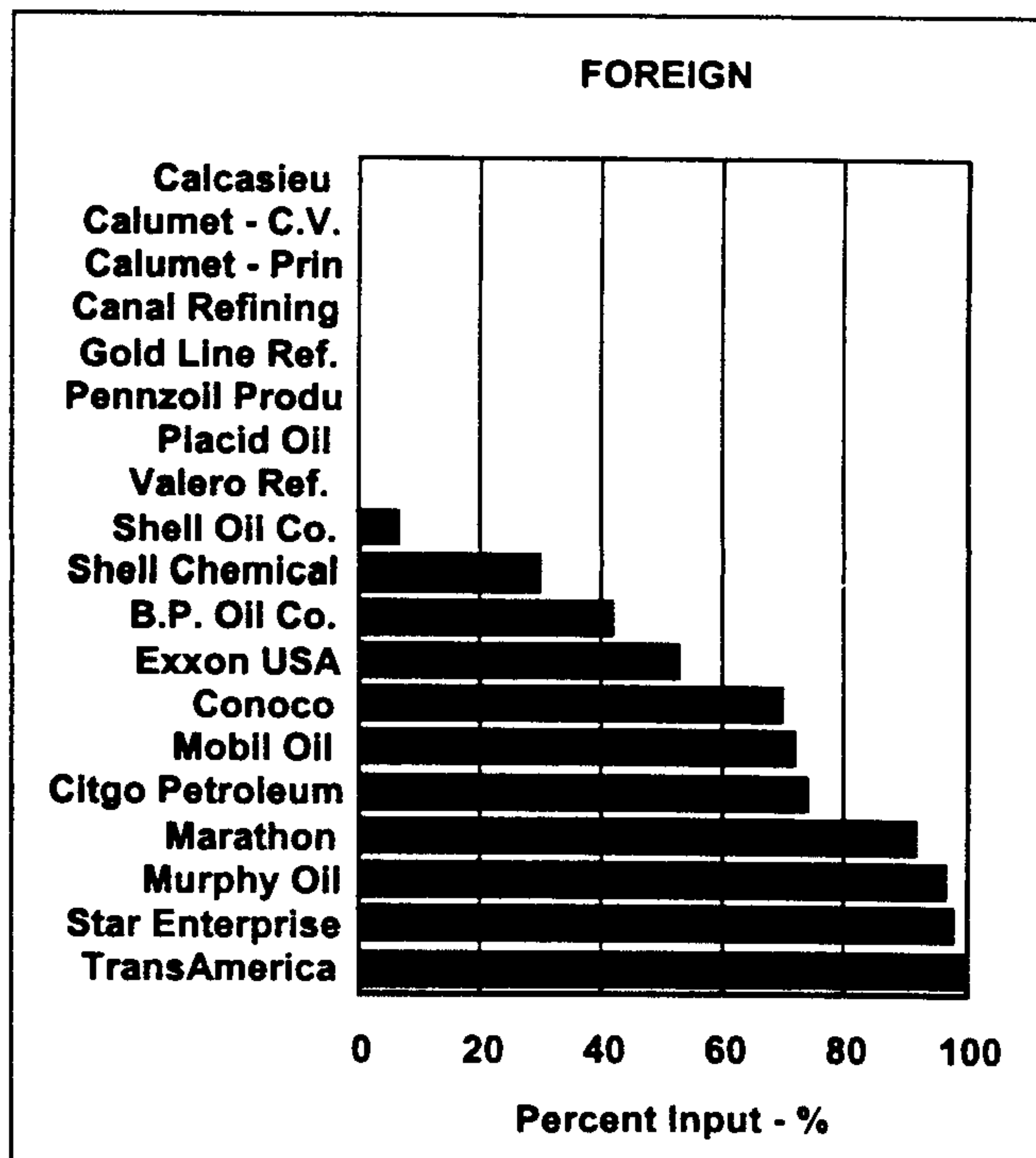
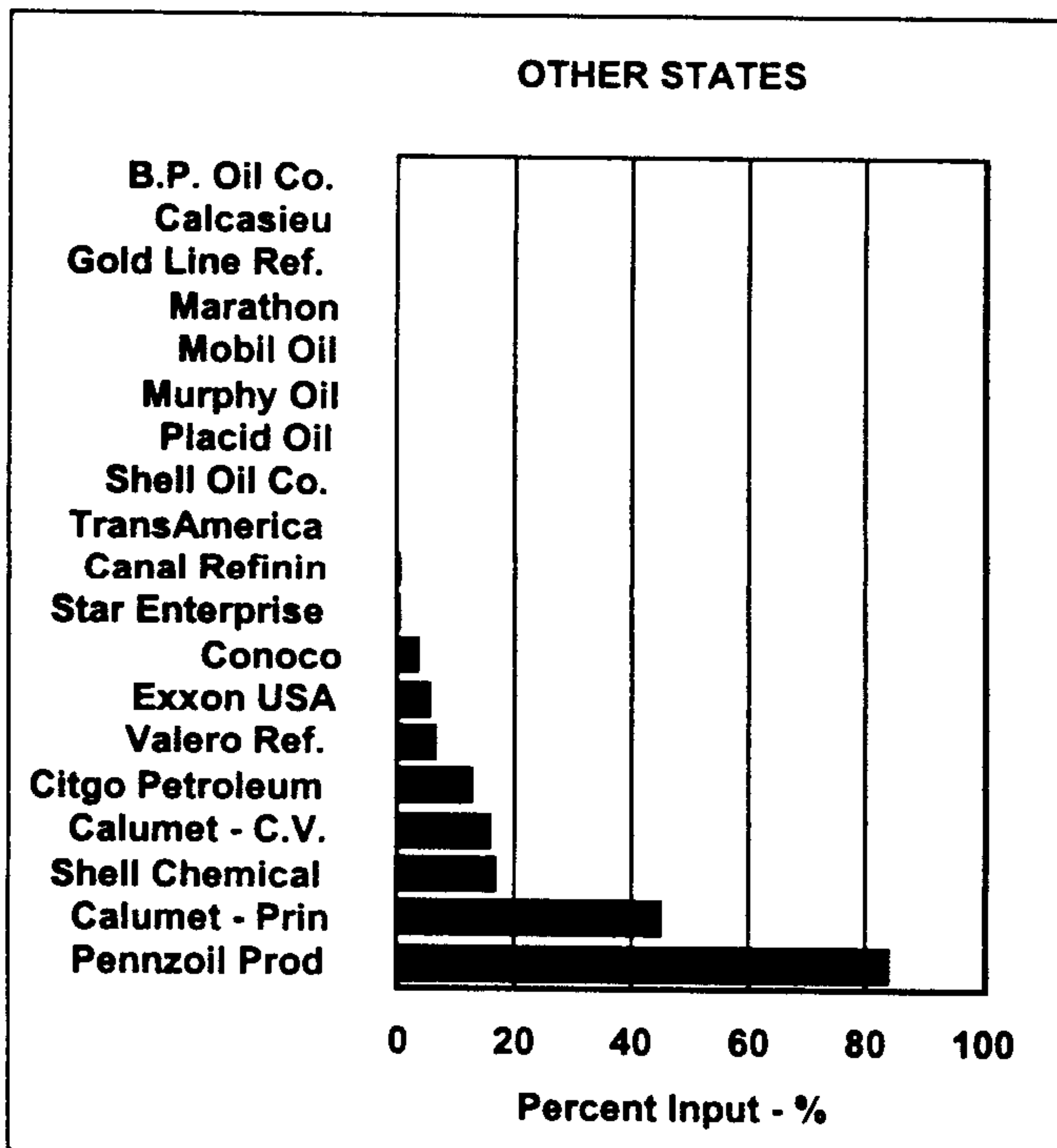
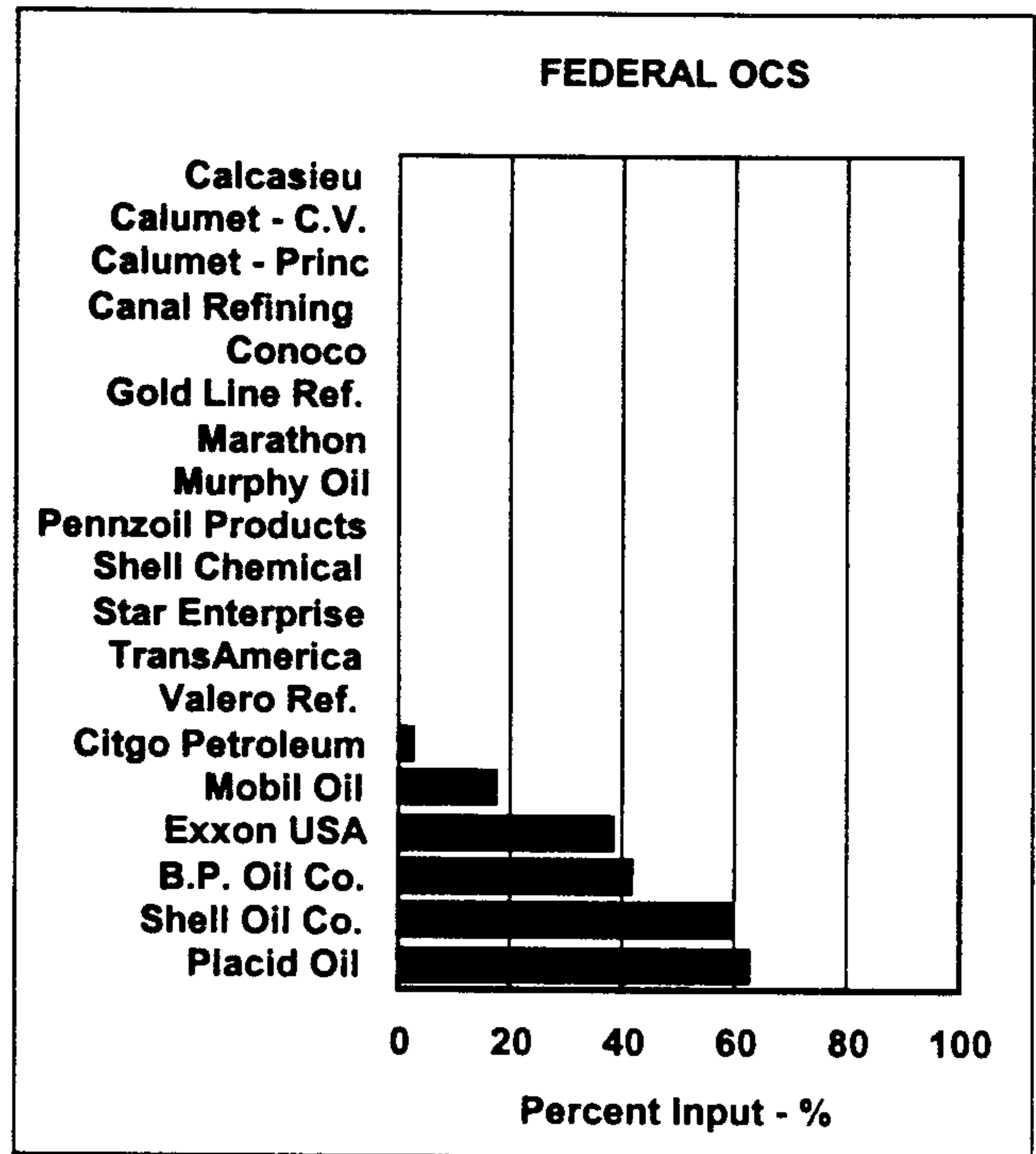
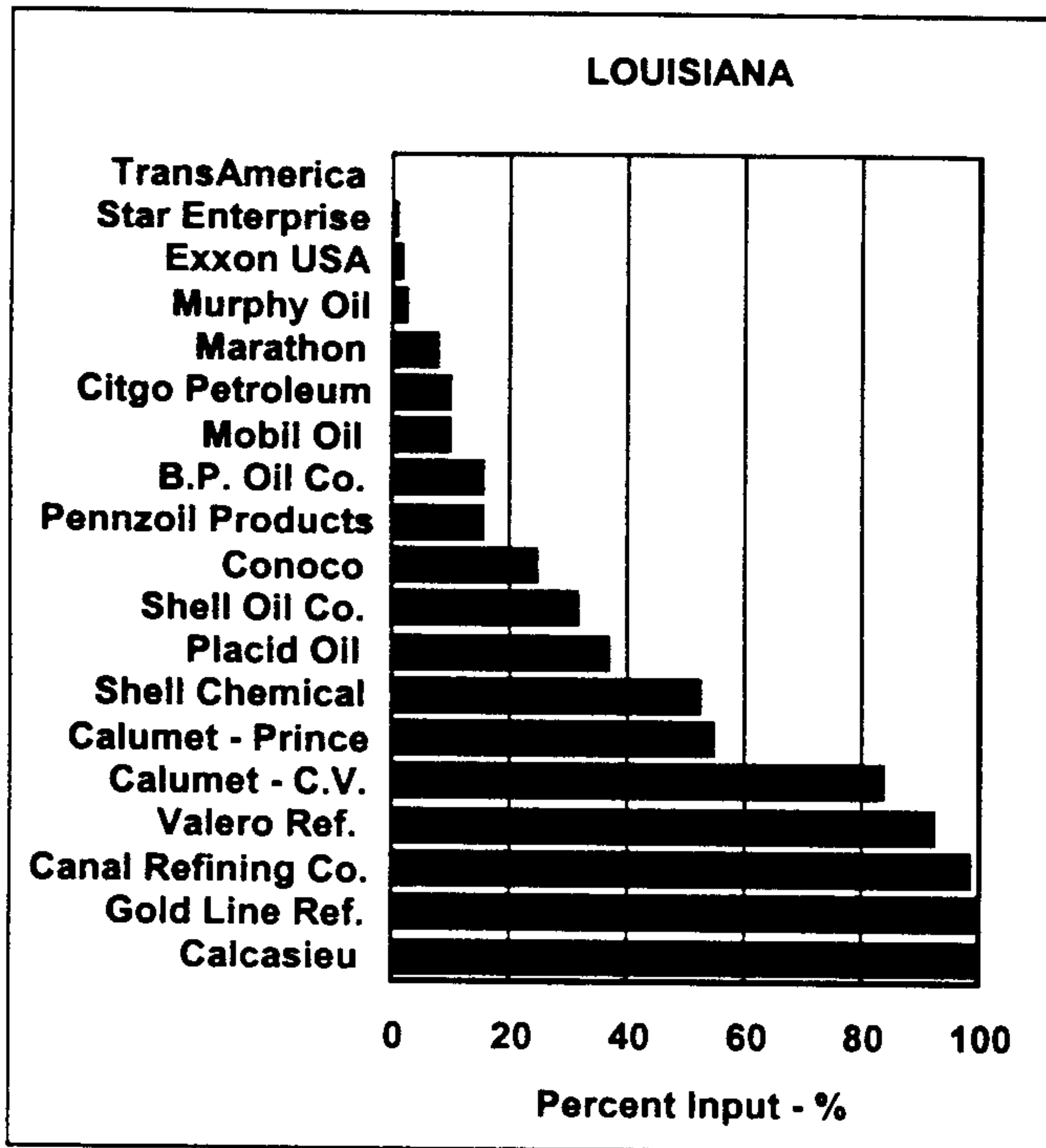
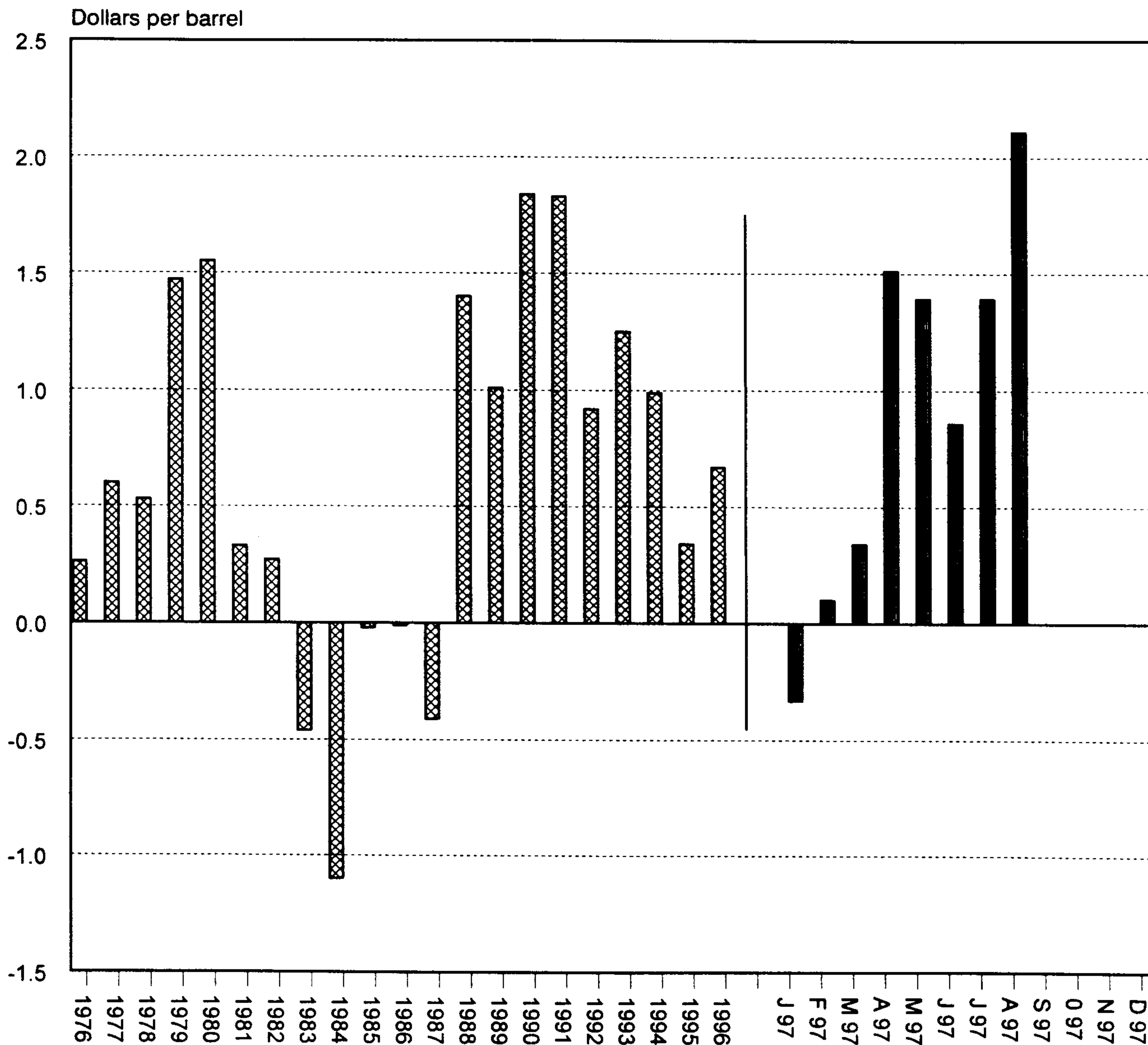


FIGURE 7
Gulf Coast Refinery Margins
Regional Average Cash Operating Margin



Source: Wright Killen & Co, from Oil & Gas Journal

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

NAME	MAILING ADDRESS	CONTACTS	TELEPHONE
American International Refinery, Inc. Lake Charles Refinery	P. O. Drawer 16866 Lake Charles, LA 70616	J. P. Chamberlain, V.P.	(318) 439-4066
B. P. Oil Co. Alliance Refinery	P.O. Box 395 Belle Chasse, LA 70037	Felix Strater, Plant Manager Pat O'Neill, Chief Engineer	(504) 656-7711
Calcasieu Refining Company	P.O. Drawer 6028 Lake Charles, LA 70606	Allen Lyons, Plant Manager Tom Prudhomme, Chief Engineer	(318) 478-2130
Calumet Lubricants Co. L.P. Cotton Valley Facility	P.O. Box 97 Cotton Valley, LA 71018	Jeff Lang, Plant Manager Rodney G. Butts, Sr. Process Engr.	(318) 832-4236 (318) 832-4236
Calumet Lubricants Co. L.P. Princeton Refinery	10234 La. Hwy. 157 Princeton, LA 71067	Jerry Arnold, Plant Manager Jerry Tollefsen, Chief Engr.	(318) 949-2421
Canal Refining Co.	P.O. Drawer 8 Church Point, LA 70525	Harold M. Langdon	(318) 684-5421
Citgo Petroleum Corp.	P.O. Box 1562 Lake Charles, LA 70602	Robert J. Kostelnik, Plant Manager Joel Kieffer, Chief Engineer	(318) 497-6053
Conoco, Inc. Lake Charles Refinery	P.O. Box 37 Westlake, LA 70669	Robert J. Hassler, Plant Manager Mike Fagnant, Chief Engineer	(318) 491-5211
Exxon Co. U.S.A.	P.O. Box 551 Baton Rouge, LA 70821	Gary W. Pruessing, Plant Manager Scott J. Sullivan, Process Manager	(504) 359-7711
Marathon Oil Co. Garyville Refinery	P.O. Box AC Garyville, LA 70051	Larry Echelberger, Plant Manager Tracy Case, Chief Engineer	(504) 535-2241
Mobil Oil Corp. Chalmette Refinery	P.O. Box 1007 Chalmette, LA 70044	Toby Coy	(504) 281-1624
Murphy Oil U.S.A. Inc. Meraux Refinery	P.O. Box 100 Meraux, LA 70075	Sherwood Breaux Darrell Lake, Chief Engineer	(504) 271-4141
Padre Refining Co. Lisbon Refinery	P.O. Box 170 Lisbon, LA 71048	James Counts, Plant Manager Stuart Eads	(318) 353-2283 (713) 659-1909
Pennzoil Products Co.	P.O. Box 3099 Shreveport, LA 71133	S. L. Rowland, Plant Manager John Short, Accounting Manager	(318) 636-2711 (318) 632-4111
Placid Refining Co.	1940 La. Hwy. 1 North Port Allen, LA 70767	Gary B. Fuller, Refinery Manager	(504) 387-0278
Shell Chemical Co. St. Rose Refinery	P.O. Box 10 Norco, LA 70079	David Brignac, Plant Manager Tammy Dickerson, Chief Engineer	(504) 465-7239
Shell Oil Co. Norco Refinery	P.O. Box 10 Norco, LA 70079	Allen Kirkley, Plant Manager Dave Jacober, Chief Engineer	(504) 465-7823
Star Enterprise Louisiana Plant	P.O. Box 37 Convent, LA 70723	Ron Anderson, Plant Manager Jim W. Kane, Chief Engineer	(504) 562-7681
TransAmerican Refining Corp. (Administrative Office)	P. O. Box 537 Norco, LA. 70079-0537	Gary L.Karr, V.P., Refining Steven L. Richards, Chief Engineer	(504) 764-8611
Valero Refining Co. - Louisiana Krotz Springs Refinery	P.O. Box 453 Krotz Springs, LA 70750	John Edmunds, Plant Manager Greg Byers, Chief Engineer	(318) 566-2301

**TABLE 5
LOUISIANA OPERATING REFINERY LOCATIONS**

NAME	PHYSICAL LOCATION
American International Refinery, Inc. / Lake Charles Refinery	Lake Charles, I-10 exit 36, north to La. 3059, left 3/4 mi.
B. P. Oil Co. / Alliance Refinery	Belle Chasse, 12 mi. south on east side of La. 23.
Calcasieu Refining Company	Lake Charles, 3 mi. 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, 5 mi. north of I-20 on east side of La. 157.
Canal Refining Co.	Church Point, 2 mi. north on left side of La. 178.
CITGO Petroleum Corp.	Lake Charles, I-10 exit 23, then 2 mi. 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.
Marathon Oil Co.	Garyville, 2 mi. toward Reserve off 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.
Padre Refining Co. / Lisbon Refinery	Lisbon, 3 mi. east on south side of La. 2.
Pennzoil Products Co.	Shreveport, 3333 Midway Ave., Across I-20 from State fairgrounds.
Placid Refining Co.	Port Allen, 1940 La. 1 North.
Shell Chemical Co. / St. Rose	St. Rose, 11842 River Road
Shell Oil Co. / Norco	Norco, on River Road
Star Enterprise - Louisiana Plant	Convent, on La. 44 at east bank foot of Sunshine bridge.
TransAmerican Refining Co.	Norco, 257 Prospect Ave.
Valero Refining Co. - La. / Krotz Springs Refinery	Krotz Springs, La. 105 South in town.

TABLE 6
Operating Refineries Name History (1980-1998)

Refinery Name	Date	DNR Code & Location	Refinery Name	Date	DNR Code & Location
Exxon Co. U.S.A.	1980-98	EXX - Baton Rouge	Citgo Petroleum Corp.	1984-98	CTS - Lake Charles
B.P. Oil Corp.	1989-98	STN - Belle Chasse	Cities Service Co.	1980-83	
Standard Oil Co.	1986-88		Conoco, Inc.	1982-98	CNB - Lake Charles
Gulf Refining & Marketing Co.	1985-85		Conoco	1980-81	
Gulf Oil Corp.	1981-84		Continental Oil Co.	1979	
Gulf Oil Co. U.S.	1979-80		American Int'l Refinery, Inc.	1997-98	KKC - Lake Charles
Canal Refining Co.	1980-98	CNL - Church Point	Gold Line Refining Ltd.	1992-97	
Mobil Oil Corp.	1989-98	TNN - Chalmette	American Int'l Refining, Inc.	1989-91	
Tenneco Oil Co.	1980-88		Lake Charles Refining Co.	1980-88	
Star Enterprise	1989-98	TXC - Convent	Aweco	1979-79	
Texaco Refining & Marketing	1985-88		Padre Refining Co.	1997-98	CLB - Lisbon
Texaco, Inc.	1980-84	CTT - Cotton Valley	Arcadia Refining & Mktg. Co.	1995-96	
Calumet Lubricants Co., L.P.	1996-98		Dubach Gas Co.	1992-94	
Kerr-McGee Refining Corp.	1985-95		Claiborne Gasoline Co.	1980-91	
Kerr-McGee Corp.	1983-84		Murphy Oil U.S.A., Inc.	1984-98	MRP - Meraux
Cotton Valley Solvents Co.	1980-82		Murphy Oil Corp.	1980-83	
Marathon Oil Co.	1992-98	MRT - Garyville	Shell Oil Co.	1980-98	SHL - Norco
Marathon Petroleum Co.	1985-91		Calumet Lubricants Co., L.P.	1991-98	CLM - Princeton
Marathon Oil Co.	1980-84		Calumet Refining Co.	1980-90	
TransAmerican Refining Co.	1992-98	GDH - Good Hope	Placid Refining Co.	1980-98	PLC - Port Allen
TransAmerica Refining Co.	1988-91		Pennzoil Producing Co.	1992-98	ATL - Shreveport
GHR Energy Corp.	1982-87		Pennzoil Products Co.	1986-91	
Good Hope Refineries, Inc.	1981-81		Pennzoil Co.	1985-85	
Good Hope Industries, Inc.	1980-80		Atlas Processing Co.	1980-84	
Valero Refining Co. - La.	1997-98	HLL - Krotz Springs	Shell Chemical Co.	1996-98	INT - St. Rose
Basis Petroleum, Inc.	1996-96		St. Rose Refinery, Inc.	1994-95	
Phibro Energy U.S.A., Inc.	1993-95		Phibro Energy U.S.A., Inc.	1993-93	
Phibro Refining Inc.	1992-92		Phibro Refining, Inc.	1992-92	
Hill Petroleum Co.	1980-91	CLC - Lake Charles	Hill Petroleum Co.	1987-91	
Calcasieu Refining Co.	1985-98		International Processors	1981-86	
CPI Oil & Refining, Inc.	1982-84				
Calcasieu Refining Ltd.	1980-81				

**TABLE 7
LOUISIANA NON-OPERATING REFINERIES
MAILING ADDRESSES & CONTACT LIST**

NAME	MAILING ADDRESS	CONTACTS	TELEPHONE
El Paso Field Services Dubach Location	400 Travis Street, Suite 1100 Shreveport, LA 71101	Martin Anthony, Marketing Director	(318) 222-2545
Bayou State Oil Corp.	Box 7886 Shreveport, LA 71137	Charles Ellis Brown, Pres.	(318) 222-0737
Gold Line Refining, Ltd. Jennings Plant	11499 Plant Road Jennings, LA 70546	Payton Smith, Operations Superintendent	(318) 824-2766
Petroleum Fuel & Terminal Co.	Box T Garyville, LA 70051	Claude Phelps, Plant Manager	(504) 535-6256
Texas NAPCO, Inc.	228 St. Charles Avenue Suite 1435 New Orleans, LA 70130	Jack Pender, Bankruptcy Trustee	(504) 581-2024
Tina Resources, Inc.	207 Firestone Drive Marble Falls, TX 78654	Leslie Vance, President	(210) 693-6923
U.S. Refining Co. (Administrative Office)	c/o Jade Petroleum P.O. Box 136 Newton, TX 75966	James Hughes, Owner	(409) 397-4221
U.S. Refining Co. (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 8.

**TABLE 8
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 junction with La. 2 West.	3,000	2/87	NONE	No plans to reopen. Some equipment sold, but process equipment remains operable.
El Paso Field Services Dubach Location	Dubach, 1/4 mi. west of U.S. 167 at south city limits.	10,000	6/93	Arcadia Refining & Marketing; Kerr-McGee Refining Co.; Dubach Gas Co., owned by Comerstone Natural Gas Co., formerly known as Endeveco.	Facility consists of a crude oil refinery and gas liquids fractionating plant. Refining assets sold by Comerstone to Arcadia. El Paso Field Services subsequently acquired the entire facility, but has no plans to operate the refinery unit. 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	2/98	Celeron; Slapco; CAS Refining	Refinery operated approximately 8 months in 1997-98, but product information not available. Owner is attempting to work something out with bankruptcy court.
Petroleum Fuel & Terminal Co.	Mt. Airy, exit Gramercy on La.20 to La.44 (River Road) junction. Left 2 miles.	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, 7-1/2 miles 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 9 miles south of jct. La. 14 & 26 in Lake Arthur via La. 14.	7,400	2/86	Mallard Resources, Inc.; Cameron Resources, Inc.	Refinery still for sale. No response to January 1998 survey.
U.S. Refining, Inc. Egan Refinery	Egan, 101 Old Ferry Road. Take I-10 exit 72; then 2 miles south on Old Ferry Rd.	10,000	9/87	La. Oil & Rerefining Crystal Refining, Inc.	Negotiations for sale of refinery in progress. No response to January 1998 survey.

TABLE 9
Non-Operating Refineries Name History (1980 - 1998)

Refinery Name	Dates	DNR Code & Location
Sooner Refining Co.	1980-82	SNR - Darrow
Conoco, Inc.	1982-89	CNA - Egan
Conoco	1980-81	
Continental Oil Co.	1979	
U.S. Refining, Inc.	1994-96	LOR - Egan
Britt Processing & Refining Co.	1992-93	
Crystal Refining, Inc.	1989-91	
OGC Corp.	1988-88	
Louisiana Oil Refining Co. of Egan	1987-87	
El Paso Field Services	1997-98	KRR - Dubach
Arcadia Refining	1995-96	
Endevco, Inc.	1989-94	
Kerr-McGee Refining Corp.	1985-88	
Kerr-McGee Corp.	1980-84	
Tina Resources, Inc.	1993-96	MLL - Gueydon
Cameron Oil Refining Co., Inc.	1992-92	
Cameron Resources	1990-91	
Mallard Resources, Inc.	1980-89	
Bayou State Oil Corp.	1980-98	BYS - Hosston
Evangeline Refining Co.	1980-92	EVN - Jennings
Shepard Oil Co.	1980-82	SHP - Jennings
Laidlaw Environmental Systems	1992-92	TSR - Jennings
GSX Recovery Systems	1983-91	
T & S Refining Co.	1980-82	

Refinery Name	Dates	DNR Code & Location
Lake Charles Refining Co. Aweco	1980-82 1979	LKC - Lake Charles
Gold Line Refining Co., Ltd.	1994-98	SLP - Mermanteau
CAS Refining	1991-93	
Celeron Oil and Gas Co.	1983-90	
Slapco	1980-82	
South Louisiana Production Co.	1979	
Petroleum Fuel & Terminal Co.	1992-98	MTR- Mt. Airy
Clark Oil and Refining Corp.	1983-91	
Mt. Airy Refining	1980-82	
Texas NAPCO, Inc.	1983-88	TXS - St. James
La. Jet, Inc.	1980-82	
Texas NAPCO, Inc.	1984-96	BRN - St. James
McTan Refining Corp.	1983-83	
McTan Corp.	1982-82	
Bruin Refining Co.	1980-81	
Sabine Resources Group	1990-92	PRT - Stonewall
Port Petroleum, Inc.	1980-89	
Schulze Processing, Inc.	1980-82	SCH - Tallulah
Gulf Oil Co. U.S.A.	1981-81	GLF - Venice
Gulf Oil Corp.	1980-80	

DEFINITIONS

Source: DOE/EIA Petroleum Supply Annual 1996, Volume 1, June 1997

Barrels per calendar day - The maximum number of barrels of input that can be processed during a 24-hour period after making allowances for the following limitations:

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 such as routine inspection, mechanical problems, maintenance, repairs, and turnaround; and

the reduction of capacity for unscheduled downtime such as mechanical problems, repairs, and slowdowns.

Barrels per stream day - The amount a unit can process running at full capacity under optimal crude oil and product slate conditions.

Idle capacity - The component of *operable* 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.

Operating capacity - The component of operable capacity that is in operation at the beginning of the period.

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.