

2001 Worldwide Refining Survey

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Survey Editor

All figures in barrels per calendar day (b/cd)

All figures are
as of January 1, 2002

LEGEND

Numbers identify processes in table

Coking

1. Fluid coking
2. Delayed coking
3. Other

Thermal process

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 hydrotreating

1. Pretreatment of cat reformer feeds
2. Other naphtha desulfurization
3. Naphtha aromatics saturation
4. Kerosine/jet desulfurization
5. Diesel desulfurization
6. Distillate aromatics saturation
7. Other distillates
8. Pretreatment of cat cracker feeds
9. Other heavy gas oil hydrotreating
10. Resid hydrotreating
11. Lube oil polishing
12. Post hydrotreating of FCC naphtha
13. Other

Alkylation

1. Sulfuric acid
2. Other

Polymerization/Dimerization

1. Polymerization
2. Dimerization

Aromatics

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

Isomerization

1. C4 feed
2. C5 feed
3. C5 and C6 feed

Oxygenates

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

Hydrogen

- Production:
1. Steam methane reforming
 2. Steam naphtha reforming
 3. Partial oxidation
 - a. Third-party plant
- Recovery:
4. Pressure swing adsorption
 5. Cryogenic
 6. Membrane
 7. Other

NOTES

A Formerly listed as Chevron USA or Texaco Inc., merged to ChevronTexaco Corp.

B Formerly listed as Irish National Petroleum Corp.
C Formerly listed as Pennzoil-Quaker State Co.

D Formerly listed as Neste Oy.
E Formerly listed as SRS GMBH.

F Formerly listed as BP PLC.
G Formerly listed as Onako.
H Formerly listed as Tosco Refining Co.

I Formerly listed as Petroperu SA.
J Formerly listed as Golden Bear Oil Specialties.

K Formerly listed as EG3.
L Formerly listed as Phillips Imperial Petroleum Ltd.

Capacity definitions:

Capacity expressed in barrels per calendar day (b/cd) is the maximum number of barrels of input that can be processed during a 24-hour period, after making allowances for the following: (a) Types and grades of inputs to be processed, (b) Types and grades of products to be manufactured, (c) Environmental constraints associated with refinery operations, (d) Scheduled downtime such as mechanical problems, repairs, and slowdown. 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. An asterisk (*) beside a refinery location indicates that the number has been converted from b/sd to b/cd using the conversion factor 0.95 for crude and vacuum distillation units and 0.9 for all downstream cracking and conversion units.

Hydrogen:

Hydrogen volumes presented here represent either generation or upgrading to 90+% purity.

Catalytic reforming:

1. Semiregenerative reforming is characterized by shutdown of the reforming unit at specified intervals, or at the operators's convenience, for in situ catalyst regeneration.
2. 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 accom-

plished without changing feed rate or octane.

3. Continuous regeneration reforming is characterized by the continuous addition of this regenerated catalyst to the reactor.
4. "Other" includes nonregenerative reforming (catalyst is replaced by fresh catalyst) and moving-bed catalyst systems.

REFINERY REMOVALS

Name	Location	Country	Crude b/cd
Amerada-Hess Corp.	Port Reading, NJUS	US
Basic Resources	Peten	Guatemala	6,000
Caribbean Petroleum Refining LP	Bayamon	Puerto Rico	48,000
Foreland Refining	Tonopah, Nev.	US	3,500
Huntway Refining	Benicia, Calif.	US	10,000
Huntway Refining	Wilmington, Calif.	US	6,000

Operates as a "catalytic cracking facility, does not process crude oil.
Operates as an asphalt plant.
Operates as an oil terminal.
Operates as a "transmix plant" to separate gasoline and diesel combined as a result of pipeline transport.
Operates as an asphalt plant.
Operates as an asphalt plant.

Laketon Refining Corp.	Laketon, Ind.	US	3,990	Operates as an asphalt terminal.
MOL Hungarian Oil & Gas Co.	Zalaegerszeg	Hungary	10,000	Operates as an asphalt plant.
Sound Refining Inc.	Tacoma, Wash.	US	11,900	Operates as an oil terminal.
Southland Oil Co.	Lumberton, Miss.	US	5,800	Operates as an asphalt plant.
Southland Oil Co.	Sandersville, Miss.	US	11,000	Operates as an asphalt plant.
Premcor Refining Group	Blue Island, Ill.	US	76,000	Shutdown as uneconomical.

NEW REFINERIES

Name	Location	Country	Crude b/cd
Sharjah Oil Refining Co. Ltd.	Sharjah	UAE	71,250