

2007 Worldwide Refining Survey

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Survey Editor

All figures are
as of January 1, 2008

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

LEGEND

Numbers identify processes in table

Coking 1. Fluid coking 2. Delayed coking 3. Other	Catalytic reforming 1. Semiregenerative 2. Cyclic 3. Continuous regen. 4. Other	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. Hydrofluoric acid	Isomerization 1. C ₄ feed 2. C ₅ feed 3. C ₅ and C ₆ feed	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
Thermal process 1. Thermal cracking 2. Visbreaking	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)		Polymerization/Dimerization 1. Polymerization 2. Dimerization	Oxygenates 1. MTBE 2. ETBE 3. TAME 4. Other	
Catalytic cracking 1. Fluid 2. Other			Aromatics 1. BTX 2. Hydrodealkylation 3. Cyclohexane 4. Cumene		

NOTES

A	Previously listed as Valero Energy Corp.	G	Previously listed as ExxonMobil Refining & Supply Co.	M	Previously listed as Sibneft
B	Previously listed as Netherlands Refining Co.	H	Previously listed as Paramount Petroleum Corp.	N	Previously listed as Salavatnefteorgsintez
C	Previously listed as Navajo Refining Co.	I	Previously listed as Shell Oil Products US	O	Previously listed as Slavneft
D	Previously listed as Singapore Petroleum Co. Ltd.	J	Previously listed as Yukos	P	JV ConocoPhillips, EnCana
E	Previously listed as Statoil Mongstad	K	Previously listed as Rosneft	Q	Previously listed as Total SA
F	Previously listed as BP PLC	L	Previously listed as Alliance Oil		

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:

- Semiregenerative reforming is characterized by shutdown of the reforming unit at specified intervals, or at the operators's convenience, for in situ catalyst regeneration.
- 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.
- Continuous regeneration reforming is characterized by the continuous addition of this regenerated catalyst to the reactor.
- "Other" includes nonregenerative reforming (catalyst is replaced by fresh catalyst) and moving-bed catalyst systems.

REFINERY REMOVALS

Name	Location	Country	Crude b/cd	Reason
Petro-Canada Products Ltd.	Oakville	Canada	83,000	Ceased operations

Worldwide Refineries-Capacities as of January 1, 2008

Country	No. of refineries	Charge capacity, b/cd								Production capacity, b/cd									
		Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (tonnes per day)	Sulfur	Asphalt
Albania.....	2	26,300	10,500	12,000	—	—	3,500	—	17,400	—	—	600	—	700	—	6.5	700	60	—
Algeria.....	4	450,000	10,894	—	—	—	88,900	—	81,950	—	—	—	—	—	—	—	—	—	—
Angola.....	1	39,000	2,500	—	—	—	1,900	—	6,600	—	—	—	—	—	—	—	—	—	950
Argentina.....	10	626,075	247,365	100,800	38,420	141,180	56,630	17,000	175,600	4,300	520	—	12,700	7,290	2,600	19.0	3,810	108	12,700
Aruba.....	1	270,750	166,250	68,400	30,600	—	—	—	214,200	—	—	—	—	—	—	93.0	4,500	810	—
Australia.....	7	707,059	175,400	—	—	234,314	166,844	20,500	467,138	24,521	9,819	1,000	39,400	1,800	—	132.0	1,534	69	9,500
Austria.....	1	208,600	65,000	—	16,875	26,250	32,725	—	139,400	—	—	—	14,400	—	1,600	—	—	180	1,470
Azerbaijan.....	2	398,978	137,200	38,529	—	57,750	24,466	—	67,492	930	—	—	—	16,200	—	—	1,400	—	5,000
Bahrain.....	1	262,000	199,800	—	24,000	42,000	12,000	60,000	82,000	—	3,700	—	—	—	—	151.0	—	575	9,700
Bangladesh.....	1	33,000	4,000	—	10,000	—	1,800	1,200	2,000	—	—	—	—	—	—	2.0	—	—	—
Belarus.....	2	493,323	105,800	—	60,000	44,000	92,000	30,000	262,100	—	—	2,785	4,500	3,760	—	22.8	—	85	9,630
Belgium.....	4	797,629	306,630	—	53,016	132,684	104,017	—	671,128	18,130	—	—	7,700	—	3,724	46.0	108	1,020	26,000
Bolivia.....	2	41,200	2,200	—	—	—	12,100	—	6,899	—	—	—	—	—	—	14.0	—	—	—
Brazil.....	13	1,908,278	810,140	115,319	9,800	505,287	24,386	—	284,446	6,290	—	—	—	20,009	6,460	126.0	6,974	771	27,100
Brunei.....	1	8,600	—	—	—	—	5,700	—	—	—	—	—	—	—	—	—	—	—	—
Bulgaria.....	1	115,240	49,900	—	20,600	23,300	4,060	—	64,200	2,600	—	2,000	—	—	790	10.3	—	63	1,500
Cameroon.....	1	37,000	—	—	—	—	6,500	—	16,140	—	—	—	—	—	—	—	—	—	—
Canada.....	18	1,969,450	662,300	49,100	130,740	500,100	377,800	227,980	1,388,960	70,060	17,390	54,230	68,850	11,580	—	448.8	2,386	1,390	73,180
Chile.....	3	226,800	85,050	13,860	13,860	50,540	26,460	50,400	—	910	—	—	8,510	—	1,580	—	656	90	—
China.....	52	6,246,000	240,000	156,000	—	588,000	156,000	52,000	441,000	15,500	—	21,000	—	18,000	900	—	4,020	760	—
China, Taiwan.....	4	1,290,000	191,500	51,000	—	217,900	115,000	—	519,000	14,200	—	14,000	26,000	5,300	8,116	341.0	4,222	3,245	17,620
Colombia.....	5	285,850	141,000	—	52,000	90,000	—	—	19,800	2,100	2,100	2,200	—	1,400	—	18.0	—	—	—
Congo, Republic of.....	1	21,000	8,000	—	—	—	2,000	2,000	3,500	—	—	—	—	—	—	—	—	—	—
Costa Rica.....	1	24,000	600	—	6,500	—	1,200	—	2,000	—	—	—	—	—	—	—	—	—	—
Croatia.....	3	250,317	87,040	5,000	23,526	51,002	49,368	12,264	68,256	—	—	9,438	5,431	470	—	—	200	123	—
Cuba.....	4	301,400	75,700	—	—	14,700	20,000	—	55,850	—	—	—	—	—	—	5.0	—	—	1,080
Czech Republic.....	4	183,000	78,870	—	17,000	—	27,470	34,430	103,780	—	—	660	7,210	4,680	2,160	112.0	—	144	10,880
Denmark.....	2	174,400	22,000	—	64,550	—	21,990	—	42,760	—	—	—	6,400	—	—	—	—	—	8,000
Dominican Republic.....	2	47,000	—	—	—	—	8,200	—	20,813	—	—	—	—	—	—	0.6	—	—	—
Ecuador.....	3	176,000	45,300	—	31,500	18,000	12,800	33,500	24,500	—	—	—	—	—	—	—	—	—	—
Egypt.....	9	726,250	95,200	39,270	—	—	62,240	33,500	207,802	9,000	—	1,584	10,700	4,441	—	62.5	1,601	290	4,623
El Salvador.....	1	22,000	4,000	—	—	—	3,200	—	15,500	—	—	—	—	—	—	—	—	—	—
Eritrea.....	1	14,564	2,219	—	—	—	1,465	—	2,742	—	—	—	—	—	—	—	—	—	—
Finland.....	2	251,800	98,200	—	30,780	25,800	44,430	94,700	162,450	6,980	540	—	—	4,000	5,150	118.0	—	420	5,700
France.....	13	1,931,799	791,941	—	144,336	388,559	289,299	62,571	1,290,680	26,002	3,010	4,101	99,569	35,890	5,830	131.0	—	1,596	44,730
Gabon.....	1	24,000	—	—	9,220	—	1,400	—	9,430	—	—	—	—	—	—	—	—	—	—
Germany.....	15	2,417,083	1,121,362	109,070	247,445	350,171	407,823	194,598	1,999,525	30,885	8,301	73,340	95,144	14,220	13,172	777.5	3,800	2,937	60,630
Ghana.....	1	45,000	—	—	—	14,000	65,000	—	—	—	—	—	—	—	—	—	—	—	—
Greece.....	4	423,000	152,000	—	49,000	75,550	49,200	43,900	361,635	2,400	1,720	9,100	23,650	3,500	3,940	23.5	—	519	16,950
Hungary.....	2	161,000	77,500	16,900	14,000	24,000	29,600	—	134,700	3,300	—	12,000	3,500	6,100	1,900	76.2	600	247	6,300
India.....	17	2,255,540	506,986	169,625	93,180	303,305	41,673	54,600	230,742	—	—	9,742	—	8,240	1,396	132.9	6,480	452	37,768
Indonesia.....	8	992,745	265,980	32,580	58,860	101,450	92,970	99,720	23,430	16,200	—	—	—	—	—	—	—	—	—
Iran.....	9	1,451,000	559,400	—	290,800	35,000	164,700	136,500	183,160	—	—	—	—	19,600	—	286.0	—	470	36,500
Iraq.....	8	597,500	145,000	—	—	—	82,000	74,241	283,000	—	—	—	—	9,420	—	64.0	—	—	38,738
Ireland.....	1	71,000	—	—	—	—	11,000	—	44,600	—	—	—	7,600	—	—	10.3	—	4	—
Israel.....	2	220,000	118,000	—	66,000	49,500	26,500	—	96,000	—	2,200	—	—	—	750	—	—	—	2,700
Italy.....	17	2,337,229	814,237	45,000	448,204	312,500	286,569	293,210	1,209,253	39,330	1,000	13,400	112,260	28,000	11,720	292.4	2,046	1,783	15,706
Ivory Coast.....	1	63,990	23,990	—	—	—	12,330	—	27,310	—	—	—	—	—	—	—	—	—	4,330
Jamaica.....	1	36,000	1,800	—	—	—	3,700	—	23,800	—	—	—	—	—	—	—	—	—	850
Japan.....	31	4,650,700	1,665,145	93,400	—	923,130	725,430	174,690	4,523,700	68,010	7,860	245,083	23,350	40,663	3,078	1,354.7	1,913	9,172	115,920
Jordan.....	1	90,400	21,500	—	—	4,000	10,900	4,350	17,300	—	—	—	—	—	—	16.0	—	—	4,250
Kazakhstan.....	3	345,093	121,037	24,997	52,071	38,356	51,586	—	177,890	—	—	—	—	—	—	21.5	1,000	124	8,550
Kenya.....	1	90,000	1,700	—	—	—	8,260	—	36,000	—	—	—	—	—	—	—	—	—	1,000
Kuwait.....	3	889,200	327,750	72,000	—	36,000	46,620	115,650	588,780	5,616	—	—	—	—	6,561	741.6	2,800	4,200	—
Kyrgyzstan.....	1	10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Liberia.....	1	15,000	1,000	—	—	—	2,000	—	3,300	—	—	—	—	—	—	—	—	—	200
Libya.....	5	378,000	3,775	—	—	—	20,250	—	43,330	—	—	—	—	635	—	—	—	—	3,432
Lithuania.....	1	190,000	89,300	—	28,800	43,200	45,900	—	153,900	—	7,200	—	18,900	—	2,700	25.0	—	320	—
Macedonia.....	1	50,000	—	—	—	—	10,860	—	22,050	—	—	—	4,390	—	—	—	—	—	—
Malaysia.....	6	514,832	76,000	24,000	—	42,700	86,070	36,000	214,300	—	—	—	10,800	—	—	147.2	2,245	460	8,000
Martinique.....	1	17,000	—	—	—	—	3,019	—	14,153	—	—	—	—	—	—	—	—	15	—
Mexico.....	6	1,540,000	754,000	91,000	—	380,500	279,300	18,500	926,050	130,456	—	17,000	—	16,600	8,880	225.0	—	—	53,000
Morocco.....	2	154,901	24,921	—	—	5,040	24,359	—	35,539	—	—	—	—	2,460	—	—	—	—	5,630
Myanmar.....	3	57,000	4,000	5,200	—	—	—	—	—	—	—	—	—	500	—	—	120	—	—

Worldwide Refineries-Capacities as of January 1, 2008

Country	No. of refineries	Charge capacity, b/cd								Production capacity, b/cd									
		Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Cat hydro-cracking	Cat hydro-treating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (tonnes per day)	Sulfur	Asphalt
Netherlands	6	1,226,886	738,822	99,900	97,700	49,000	152,773	192,105	851,285	7,300	8,800	68,468	9,100	11,600	2,640	334.6	—	1,642	16,500
Netherlands Antilles	1	320,000	195,000	—	80,000	50,000	20,000	—	119,500	9,000	2,000	—	—	12,000	—	54.6	—	300	26,000
New Zealand	1	107,000	38,270	—	—	—	25,840	30,000	104,490	—	—	—	—	—	—	60.0	—	111	5,490
Nicaragua	1	20,000	1,500	—	—	—	2,900	—	14,500	—	—	—	—	—	—	—	—	—	—
Nigeria	4	505,000	124,490	—	—	82,700	70,070	—	109,231	9,870	2,274	291	3,610	3,878	—	—	—	—	14,850
North Korea	2	71,000	—	—	—	—	7,300	—	7,400	—	—	1,000	—	—	1,000	—	—	—	—
Norway	2	315,000	—	24,780	32,000	49,000	36,400	—	124,000	—	11,000	—	3,840	—	—	—	610	23	—
Oman	1	85,000	—	—	—	—	16,000	—	21,000	—	—	—	—	—	—	—	—	—	—
Pakistan	5	266,675	60,475	—	14,004	—	26,365	20,205	77,955	—	—	1,400	—	3,800	—	—	—	115	4,200
Papua New Guinea	1	32,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paraguay	1	7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Peru	6	192,950	94,000	—	25,700	32,000	2,100	—	2,800	—	—	—	—	—	—	—	—	—	3,800
Philippines	3	282,000	61,000	—	33,000	19,000	51,000	—	184,990	—	—	—	10,000	3,700	—	370	—	70	1,200
Poland	4	492,950	265,123	—	—	32,985	67,514	145,908	259,507	3,372	—	10,262	23,194	17,796	2,514	1670	—	560	33,371
Portugal	2	304,172	82,750	—	23,400	40,500	50,182	9,180	199,287	5,400	—	17,276	—	—	—	85.3	—	252	—
Puerto Rico	1	73,000	34,000	—	—	—	21,000	20,000	21,000	—	—	—	—	—	—	20.0	—	34	—
Qatar	1	200,000	—	—	—	60,000	29,400	20,000	39,350	—	—	—	25,000	—	—	—	—	—	—
Romania	10	516,557	273,225	68,240	37,577	109,478	61,763	1,534	237,625	2,300	—	7,801	3,846	10,366	1,330	18.0	2,555	143	13,761
Russia	40	5,428,497	2,028,570	84,999	382,593	330,817	745,735	57,056	2,170,966	10,006	1,729	54,337	21,869	82,842	7,175	93.3	3,720	726	210,545
Saudi Arabia	7	2,080,000	445,950	—	138,200	103,600	193,160	133,820	493,460	31,500	—	6,500	33,000	—	3,700	190.7	—	—	—
Senegal	1	25,030	7,160	—	—	—	1,590	—	1,930	—	—	—	—	—	—	—	—	—	—
Serbia & Montenegro	2	214,826	50,583	—	20,340	18,950	18,822	—	50,910	3,070	—	200	—	300	—	0.5	—	59	2,400
Sierra Leone	1	10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Singapore	3	1,344,000	343,700	—	213,210	80,000	132,970	101,860	678,500	9,000	4,800	46,000	—	43,000	1,400	203.7	—	681	38,500
Slovakia	1	115,000	55,000	—	—	18,000	21,000	42,000	87,800	4,500	—	9,250	6,000	2,000	1,500	89.6	—	270	2,600
Slovenia	1	13,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
South Africa	4	485,297	199,775	26,800	58,385	104,025	77,143	11,774	222,642	9,275	5,800	—	11,688	11,451	—	48.8	240	622	7,960
South Korea	6	2,576,500	315,500	19,000	—	187,000	235,870	120,000	1,068,110	5,400	—	112,555	—	18,300	8,870	653.4	1,200	2,401	24,197
Spain	9	1,277,000	416,600	43,100	149,200	194,300	198,400	131,500	827,500	17,262	—	25,800	37,900	9,600	9,600	341.1	2,390	1,712	26,600
Sri Lanka	1	50,000	24,000	—	12,500	—	5,300	—	19,295	—	—	—	—	—	—	—	—	—	1,000
Sudan	3	121,700	—	—	—	—	1,900	—	8,100	—	—	—	—	—	—	—	—	—	—
Suriname	1	7,000	7,000	—	2,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	5	437,000	135,600	—	66,800	29,700	70,660	48,600	268,540	—	3,420	—	28,530	—	—	53.8	—	334	27,460
Switzerland	2	132,000	24,000	—	20,000	20,400	28,000	—	95,200	—	3,800	—	10,000	—	—	28.0	—	—	5,200
Syria	2	239,865	63,135	18,200	22,689	—	31,242	26,410	80,886	—	—	—	11,493	—	—	270	500	150	2,223
Tanzania	1	14,900	—	—	2,500	—	2,500	—	4,400	—	—	—	—	—	—	—	—	—	—
Thailand	4	729,100	267,530	—	39,433	91,490	125,590	95,853	545,820	—	—	9,500	19,596	—	—	122.7	—	581	2,500
Trinidad & Tobago	1	168,000	119,200	—	24,000	24,000	18,000	45,000	41,000	1,200	1,580	—	—	—	1,000	30.0	—	100	—
Tunisia	1	34,000	—	—	—	—	3,300	—	—	—	—	—	—	—	—	—	—	—	—
Turkey	6	714,275	201,767	—	23,590	28,935	65,662	53,820	265,005	—	—	—	14,055	5,870	—	217.5	180	315	20,216
Turkmenistan	2	236,970	91,645	28,568	—	15,151	52,540	—	63,500	1,028	1,223	—	—	2,000	—	—	1,040	—	415
Ukraine	6	879,759	336,297	22,149	17,291	70,100	144,711	7,200	315,013	—	—	3,464	—	500	125	21.5	705	176	12,785
United Arab Emirates	5	781,250	92,870	—	—	34,350	25,875	31,050	158,627	1,140	1,900	—	—	—	—	58.8	—	57	700
United Kingdom	11	1,857,668	881,414	64,600	106,958	442,602	338,551	36,000	1,263,983	92,202	13,596	14,500	120,423	23,899	3,967	111.0	2,400	737	33,930
United States	131	17,447,237	7,834,156	2,428,290	34,020	5,725,184	3,596,903	1,617,080	13,707,964	1,139,649	82,470	412,250	708,716	199,320	36,610	4,190.9	120,907	30,034	456,417
Uruguay	1	50,000	—	—	7,000	12,000	—	—	23,000	—	—	—	6,000	—	—	—	—	—	—
Uzbekistan	3	222,271	45,671	17,667	9,585	—	23,487	—	30,804	—	—	—	—	9,397	—	—	650	—	4,151
Venezuela	5	1,282,100	585,780	144,900	—	231,800	49,500	—	389,700	65,800	—	2,000	20,700	12,020	12,830	147.8	5,200	1,471	36,000
Virgin Islands	1	500,000	205,000	55,000	37,000	140,000	105,000	—	435,000	18,000	7,000	18,000	17,000	—	—	—	3,500	500	—
Yemen	2	140,000	10,500	—	—	—	14,500	—	—	—	—	—	—	—	—	—	—	—	3,000
Zambia	1	23,750	2,280	—	—	—	5,320	—	8,550	—	—	—	—	—	—	—	—	—	5,527
Total	657	85,308,560	28,583,220	4,479,243	3,867,158	14,316,835	11,431,307	4,956,939	44,011,088	1,943,994	216,752	1,314,117	1,756,524	769,097	187,268	13,460	198,912	76,679	1,733,315

US Refineries-State Capacities as of January 1, 2008

State	No. of refineries	Charge capacity, b/cd								Production capacity, b/cd									
		Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (tonnes per day)	Sulfur	Asphalt
Alabama	3	140,000	58,000	14,000	—	—	29,700	30,000	85,000	—	—	—	7,500	—	—	22.0	500	140	14,000
Alaska	6	382,175	24,225	29,500	—	—	12,000	12,500	12,500	—	—	1,215	4,000	—	—	13.0	—	19	2,800
Arkansas	2	77,000	30,075	—	—	17,550	13,320	—	78,570	4,500	—	—	5,940	4,500	—	2.5	—	157	12,300
California	15	1,983,100	1,154,400	490,500	10,000	682,370	435,300	488,900	1,720,950	175,800	9,070	—	158,350	20,000	2,700	1,403.2	20,568	3,903	43,000
Colorado	2	122,000	44,000	—	—	35,000	27,100	—	52,100	—	4,400	—	—	—	—	—	—	98	10,500
Delaware	1	190,000	102,000	47,000	—	82,000	43,000	18,000	130,000	11,000	5,040	1,260	6,000	—	—	62.0	2,200	532	—
Hawaii	2	147,700	69,500	—	11,500	21,000	12,800	17,600	15,800	4,000	1,000	—	1,200	—	—	20.0	—	34	2,300
Illinois	4	896,650	373,650	135,900	—	290,900	235,280	63,600	742,710	76,800	—	9,530	14,300	—	—	109.5	7,869	1,577	52,000
Indiana	2	428,500	197,000	34,500	—	172,850	90,500	—	384,700	27,000	—	—	34,200	—	—	29.5	1,309	162	2,700
Kansas	3	292,700	126,400	58,550	—	89,000	69,200	33,100	229,000	28,600	—	2,200	34,000	—	—	141.7	2,659	353	—
Kentucky	2	227,500	114,500	—	—	96,900	50,000	—	260,900	19,000	—	14,300	14,300	8,400	—	32.3	—	406	21,900
Louisiana	18	2,911,600	1,325,300	456,020	12,520	1,078,850	500,325	216,280	2,275,950	202,600	23,920	55,300	96,200	49,950	11,150	342.1	23,638	6,359	28,500
Michigan	1	100,000	48,500	—	—	29,500	18,100	—	95,900	4,700	—	—	—	—	—	—	—	132	21,900
Minnesota	2	393,000	215,650	63,720	—	103,050	65,670	36,000	360,850	16,450	4,140	—	25,700	—	—	194.0	4,100	1,010	52,900
Mississippi	2	353,000	250,200	98,000	—	78,000	71,000	58,000	250,500	14,800	2,100	19,000	—	11,300	—	212.7	6,440	1,067	9,600
Montana	4	187,100	97,800	28,500	—	58,700	37,700	5,500	193,200	16,600	400	—	6,800	—	—	164.9	1,460	314	35,800
New Jersey	3	554,000	208,750	27,000	—	240,500	86,800	—	368,250	30,950	3,300	17,000	34,525	11,500	—	57.0	1,470	556	16,000
New Mexico	3	129,600	25,000	—	—	41,500	36,100	—	116,700	10,800	2,000	—	15,000	—	—	9.0	—	113	5,000
North Dakota	1	58,000	—	—	—	25,700	11,500	—	23,600	4,200	1,100	—	4,800	—	—	—	—	15	—
Ohio	4	534,500	179,400	54,200	—	120,700	156,200	82,600	299,200	27,200	800	15,300	16,200	—	—	136.4	1,813	342	21,800
Oklahoma	5	486,000	182,675	32,500	—	126,276	106,979	17,500	350,600	28,712	2,000	—	35,900	8,500	—	111.0	1,450	482	18,250
Pennsylvania	5	766,700	286,200	—	—	277,900	150,200	20,700	382,300	42,000	1,000	35,300	14,700	2,600	2,600	6.0	—	160	12,000
Tennessee	1	190,000	—	—	—	68,000	36,000	—	154,000	12,000	—	—	4,000	—	—	—	—	106	—
Texas	23	4,829,062	2,151,631	736,400	—	1,723,238	1,076,629	454,200	4,472,064	327,537	12,600	241,845	122,101	77,770	19,500	968.0	40,839	11,177	52,467
Utah	5	173,900	36,600	7,200	—	56,400	36,500	1,600	111,700	15,900	—	—	8,200	—	—	—	281	59	1,200
Virginia	1	58,900	33,000	17,100	—	26,700	10,800	—	29,300	—	4,000	—	—	—	660	—	905	36	—
Washington	5	634,900	431,800	87,700	—	135,200	145,850	61,000	408,000	31,650	4,300	—	41,400	—	—	139.0	2,846	583	11,000
West Virginia	1	19,400	8,400	—	—	—	3,600	—	18,600	—	—	—	—	4,800	—	4.1	—	1	—
Wisconsin	1	33,250	19,500	—	—	9,900	7,200	—	20,620	1,350	—	—	1,800	—	—	—	—	15	6,750
Wyoming	4	147,000	40,000	10,000	—	37,500	21,550	—	64,400	5,500	1,300	—	1,600	—	—	11.0	560	128	1,750
Total	131	17,447,237	7,834,156	2,428,290	34,020	5,725,184	3,596,903	1,617,080	13,707,964	1,139,649	82,470	412,250	708,716	199,320	36,610	4,190.9	120,907	30,035	456,417

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
ALBANIA																		
Albpetrol—Ballshi	17,800	4,500	² 12,000	—	—	3,500	—	17,400	—	—	600	—	700	—	6.5	700	60	—
Albpetrol—Fieri	8,500	6,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	26,300	10,500	12,000	—	—	3,500	—	17,400	—	—	600	—	700	—	6.5	700	60	—
ALGERIA																		
Naftec SPA—Algiers	60,000	—	—	—	—	¹ 15,000	—	¹ 14,400	—	—	—	—	—	—	—	—	—	—
Naftec SPA—Arzew	60,000	5,447	—	—	—	¹ 11,500	—	¹ 7,380	—	—	—	—	—	—	—	—	—	—
								¹ 3,470										
Naftec SPA—Hassi-Messaoud	30,000	—	—	—	—	¹ 2,400	—	¹ 2,700	—	—	—	—	—	—	—	—	—	—
Naftec SPA—Skikda	300,000	5,447	—	—	—	¹ 60,000	—	¹ 54,000	—	—	—	—	—	—	—	—	—	—
Total	450,000	10,894	—	—	—	88,900	—	81,950	—	—	—	—	—	—	—	—	—	—
ANGOLA																		
Finia Petroleos de Angola—Luanda	39,000	2,500	—	—	—	¹ 1,900	—	¹ 3,800	—	—	—	—	—	—	—	—	—	950
								2,800										
Total	39,000	2,500	—	—	—	1,900	—	6,600	—	—	—	—	—	—	—	—	—	950
ARGENTINA																		
Destileria Argentina de Petroleo SA—Dock Sud	4,000	1,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Destileria Argentina de Petroleo SA—Lomas de Zamora	8,000	1,300	—	—	—	—	—	—	—	—	—	—	900	—	—	—	—	600
ExxonMobil Refining & Supply—Campana	86,000	48,000	² 24,000	—	¹ 26,500	¹ 11,000	—	¹ 10,000	—	—	—	—	—	—	—	1,000	—	—
								³ 7,500										
								⁷ 14,000										
Petroleo Brasileiro SA—Bahia Blanca	28,975	11,875	—	² 3,420	¹ 7,110	¹ 5,400	—	² 7,920	—	—	—	³ 2,700	—	—	—	—	—	—
Refineria San Lorenzo SA—San Lorenzo	37,600	16,100	—	¹ 3,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—
				² 12,500														
Refinor SA—Campo Duran	32,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Repsol YPF SA—La Plata	189,000	64,500	² 34,700	—	¹ 59,800	¹ 10,200	—	¹ 10,200	—	—	—	³ 6,800	4,900	¹ 1,400	—	1,380	54	7,500
								² 26,500										
								⁵ 14,900										
								¹ 14,900										
								¹ 28,600										
								¹ 31,200										
Repsol YPF SA—Lujan de Cuyo	105,500	65,500	² 36,100	—	¹ 21,500	¹ 9,300	¹ 17,000	¹ 10,300	² 2,300	—	—	³ 3,200	—	¹ 1,200	¹ 19.0	1,430	54	—
								² 3,200										
								⁵ 17,700										
Repsol YPF SA—Plaza Huincul	25,000	—	—	—	—	¹ 2,600	—	² 2,800	—	—	—	—	—	—	—	—	—	—
Shell Cia. Argentina de Petroleo SA—Buenos Aires	110,000	39,090	³ 6,000	² 19,000	¹ 26,270	¹ 18,130	—	¹ 18,880	² 2,000	¹ 520	—	—	1,490	—	—	—	—	4,600
								⁵ 17,000										
Total	626,075	247,365	100,800	38,420	141,180	56,630	17,000	175,600	4,300	520	—	12,700	7,290	2,600	19	3,810	108	12,700

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
ARUBA																		
Valero Aruba Refinery*— San Nicolas	270,750	166,250	² 68,400	² 30,600	—	—	—	⁴ 54,000	—	—	—	—	—	—	² 93.0	4,500	810	—
								⁵ 43,200										
								⁸ 117,000										
Total	270,750	166,250	68,400	30,600	—	—	—	214,200	—	—	—	—	—	—	93	4,500	810	—
AUSTRALIA																		
BP PLC*—Bulwer Island	100,700	39,000	—	—	¹ 23,300	¹ 15,700	20,500	¹ 15,700	² 2,500	—	—	—	1,800	—	³ 35.0	—	25	1,000
								³ 4,900										
								⁵ 49,800										
BP PLC*—Kwinana	137,250	22,000	—	—	¹ 35,000	³ 24,000	—	¹ 44,000	² 4,100	¹ 2,100	—	¹ 15,000	—	—	⁵ 52.8	1,534	34	—
								³ 4,750							⁶ 6.9			
								⁵ 49,000										
Caltex Refineries (NSW) Ltd.— Kurnell	105,500	—	—	—	¹ 36,157	³ 26,000	—	¹ 2,600	² 3,300	¹ 1,600	—	8,200	—	—	—	—	—	—
	—	—	—	—	—	—	—	⁵ 9,600	—	—	—	—	—	—	—	—	—	—
Caltex Refineries (Qld.) Ltd.— Lytton	108,609	—	—	—	¹ 36,157	³ 22,644	—	¹ 22,644	² 3,621	¹ 1,649	—	³ 8,200	—	—	⁵ 37.3	—	—	—
								³ 4,864										
								⁵ 23,140										
ExxonMobil Refining & Supply Co.—Altona	78,000	83,500	—	—	¹ 28,500	¹ 27,500	—	¹ 33,000	¹ 3,000	—	—	—	—	—	—	—	10	3,000
								⁵ 25,000										
Shell Refining (Australia) Pty. Ltd.—Clyde	85,000	21,000	—	—	¹ 35,200	³ 20,000	—	¹ 40,000	² 3,000	¹ 2,100	—	—	—	—	—	—	—	2,500
								⁵ 24,640										
Shell Refining (Australia) Pty. Ltd.—Geelong	92,000	9,900	—	—	² 40,000	¹ 11,000	—	¹ 49,500	² 5,000	¹ 2,370	¹ 1,000	³ 8,000	—	—	—	—	—	3,000
						³ 20,000		⁴ 9,000										
								⁵ 45,000										
								⁹ 10,000										
Total	707,059	175,400	—	—	234,314	166,844	20,500	467,138	24,521	9,819	1,000	39,400	1,800	—	132.0	1,534	69	9,500
AUSTRIA																		
OMV AG—Schwechat	208,600	65,000	—	² 16,875	¹ 26,250	¹ 32,725	—	¹ 46,400	—	—	—	³ 14,400	—	¹ 1,600	—	—	180	1,470
								² 4,800										
								37,300										
								38,300										
								12,600										
Total	208,600	65,000	—	16,875	26,250	32,725	—	139,400	—	—	—	14,400	—	1,600	—	—	180	1,470
AZERBAIJAN																		
SOCAR—Baku	238,978	66,157	—	—	—	—	—	—	—	—	—	—	16,200	—	—	—	—	5,000
SOCAR—New Baku	160,000	71,043	² 38,529	—	¹ 57,750	³ 24,466	—	¹ 25,300	¹ 930	—	—	—	—	—	—	1,400	—	—
								⁸ 42,192										
Total	398,978	137,200	38,529	—	57,750	24,466	—	67,492	930	—	—	—	16,200	—	—	1,400	—	5,000

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
BAHRAIN																		
Bahrain Petroleum Co.*—Sitra	262,000	199,800	—	² 24,000	¹ 42,000	¹ 12,000	^{m 1} 60,000	¹ 12,000	—	¹ 3,700	—	—	—	—	¹ 134	—	575	9,700
								⁶ 70,000							⁴ 16.7			
Total	262,000	199,800	—	24,000	42,000	12,000	60,000	82,000	—	3,700	—	—	—	—	151	—	575	9,700
BANGLADESH																		
Eastern Refinery Ltd.—Chittagong	33,000	4,000	—	² 10,000	—	¹ 1,800	^{m 1} 1,200	¹ 2,000	—	—	—	—	—	—	¹ 1.0	—	—	—
															⁴ 1.0			
Total	33,000	4,000	—	10,000	—	1,800	1,200	2,000	—	—	—	—	—	—	2.0	—	—	—
BELARUS																		
P.O. Naftan Refinery—Novopolotsk	170,000	50,000	—	² 36,000	—	¹ 44,000	—	¹ 34,500	—	—	¹ 2,785	³ 4,500	3,760	—	¹ 7.6	—	—	—
								115,000							⁵ 7.6			
Slavneft—Mozyr	323,323	55,800	—	² 24,000	¹ 44,000	¹ 24,000	¹ 30,000	¹ 50,600	—	—	—	—	—	—	⁴ 7.6	—	85	9,630
						² 24,000		62,000										
Total	493,323	105,800	—	60,000	44,000	92,000	30,000	262,100	—	—	2,785	4,500	3,760	—	22.8	—	85	9,630
BELGIUM																		
AB Nynas Petroleum NV—Antwerp	21,000	21,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14,000
ExxonMobil Refining & Supply Co.—Antwerp	305,000	137,000	—	—	¹ 35,000	² 37,500	—	¹ 71,000	¹ 8,000	—	—	—	—	—	¹ 46	—	370	12,000
								⁴ 51,000										
								⁵ 59,000										
								⁸ 93,000										
Petroplus Holdings AG—Antwerp	115,000	56,000	—	² 23,000	—	¹ 11,000	—	² 28,000	—	—	—	³ 7,700	—	—	—	108	—	—
								⁵ 36,000										
Total SA—Antwerp	356,629	92,630	—	² 30,016	¹ 97,684	³ 55,517	—	¹ 134,608	² 10,130	—	—	—	—	² 3,724	—	—	650	—
								⁴ 42,278										
								⁵ 72,974										
								¹⁰ 83,268										
Total	797,629	306,630	—	53,016	132,684	104,017	—	671,128	18,130	—	—	7,700	—	3,724	46	108	1,020	26,000
BOLIVIA																		
Empresa Boliviana de Refinacion—Cochabamba	25,000	2,200	—	—	—	⁴ 5,700	—	—	—	—	—	—	—	—	—	—	—	—
								¹³ 499										
Empresa Boliviana de Refinacion—Santa Cruz de la Sierra	16,200	—	—	—	—	⁴ 6,400	—	¹ 6,400	—	—	—	—	—	—	14	—	—	—
Total	41,200	2,200	—	—	—	12,100	—	6,899	—	—	—	—	—	—	14	—	—	—
BRAZIL																		
Petroleo Brasileiro SA—Araucaria, Parana	193,008	89,869	—	—	¹ 53,904	—	—	⁵ 29,249	—	—	—	—	—	—	¹ 10	—	70	5,000
Petroleo Brasileiro SA—Betim, Minas Gerais	144,756	77,203	² 22,265	—	¹ 40,269	—	—	⁴ 10,547	—	—	—	—	—	—	20	1,062	73	6,000
								⁵ 35,679										

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Petroleo Brasileiro SA—Canoas, Rio Grande do Sul	180,945	33,173	—	—	¹ 18,163	—	—	¹² 10,547	—	—	—	—	—	—	—	—	22	2,600
Petroleo Brasileiro SA—Capuava, Maua, Sao Paulo	47,045	—	—	—	¹ 17,578	—	—	—	—	—	—	—	—	—	—	—	9	—
Petroleo Brasileiro SA—Cubatao, Sao Paulo	162,851	77,806	² 31,054	—	¹ 55,662	¹ 10,254	—	¹ 10,528	² 3,145	—	—	—	—	¹ 1,580	30	1,481	70	—
Petroleo Brasileiro SA—Duque de Caxias, Rio de Janeiro	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	232,213	112,186	—	—	¹ 49,717	¹ 11,132	—	⁵ 33,340	3,145	—	—	—	13,712	¹ 1,580	18	1,481	70	—
Petroleo Brasileiro SA—Fortaleza, Ceara	6,032	6,032	—	—	—	—	—	⁸ 11,698	—	—	—	—	1,076	—	1	—	—	3,500
Petroleo Brasileiro SA—Manaus, Amazonas	44,030	6,635	—	—	¹ 2,930	—	—	—	—	—	—	—	—	—	—	—	—	1,100
Petroleo Brasileiro SA—Mataripe, Bahia	269,003	126,058	—	—	¹ 87,888	—	—	—	—	—	—	—	5,221	—	2	—	72	2,300
Petroleo Brasileiro SA—Paulinia, Sao Paulo	355,859	155,010	² 62,000	—	¹ 93,747	—	—	⁵ 66,679	—	—	—	—	—	¹ 1,900	35	2,950	212	4,000
Petroleo Brasileiro SA—Sao Jose dos Campos, Sao Paulo	241,536	120,768	—	—	¹ 82,029	—	—	⁴ 17,578	—	—	—	—	—	¹ 1,400	10	—	173	2,600
Refinaria de Petroleo Ipiranga SA—Rio Grande do Sul	17,000	5,400	—	—	¹ 3,400	—	—	⁵ 35,094 ¹² 20,507	—	—	—	—	—	—	—	—	—	—
Refinaria de Petroleos de Manguinhos SA—Rio de Janeiro	14,000	—	—	¹ 3,800	—	¹ 3,000	—	¹ 3,000	—	—	—	—	—	—	—	—	—	—
Total	1,908,278	810,140	115,319	9,800	505,287	24,386	—	284,446	6,290	—	—	—	20,009	6,460	126	6,974	771	27,100
BRUNEI																		
Brunei Shell Petroleum Co. Sdn. Bhd.—Seria	8,600	—	—	—	—	¹ 5,700	—	—	—	—	—	—	—	—	—	—	—	—
Total	8,600	—	—	—	—	5,700	—	—	—	—	—	—	—	—	—	—	—	—
BULGARIA																		
Neftochim—Bourgas	115,240	49,900	—	¹ 20,600	¹ 23,300	¹ 4,060	—	¹ 7,600 ³ 2,600 30,700 ⁸ 23,300	¹ 2,600	—	¹ 2,000	—	—	¹ 790	¹ 8.4 ⁵ 1.9	—	63	1,500
Total	115,240	49,900	—	20,600	23,300	4,060	—	64,200	2,600	—	2,000	—	—	790	10.3	—	63	1,500
CAMEROON																		
Societe Nationale de Raffinage— Cape Limboh Limbe	37,000	—	—	—	—	¹ 6,500	—	¹ 12,600 ⁵ 3,540	—	—	—	—	—	—	—	—	—	—
Total	37,000	—	—	—	—	6,500	—	16,140	—	—	—	—	—	—	—	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
CANADA																		
Alberta																		
Husky Oil Operations Ltd.— Lloydminster	25,000	15,000	7,500	—	—	—	—	—	—	—	—	—	—	—	—	685	—	12,000
Imperial Oil—Edmonton	187,200	67,500	—	—	¹ 60,800	¹ 20,900	—	² 50,400 ⁵ 44,700 ⁷ 22,800 ¹² 29,500	² 15,700	—	—	¹ 6,600	2,600	—	⁶ 20.0	—	49	10,400
Petro-Canada Products Ltd.— Edmonton	125,200	27,000	² 7,500	—	¹ 37,100	¹ 15,300	^c ⁴ 18,700	¹ ⁵ 108,300	² 12,600	—	—	¹ 3,100	—	—	¹ 32.3	371	56	—
								⁸ 39,300 ¹³ 14,300				³ 12,000						
Shell Canada Ltd.—Scotford	100,000	—	—	—	—	³ 21,700	¹ 40,500	² 28,070	—	—	¹ 5,170	—	—	—	—	—	11	—
								⁴ 29,140			³ 270							
Total	437,400	109,500	15,000	—	97,900	57,900	59,200	366,510	28,300	—	5,440	21,700	2,600	—	52.3	1,056	116	22,400
British Columbia																		
Chevron Corp.—Burnaby	55,000	11,000	—	—	¹ 18,000	¹ 9,000	—	¹ 15,000	¹ 3,000	¹ 850	—	³ 10,000	—	—	—	—	28	2,000
								⁵ 15,000	—	—	—	—	—	—	—	—	—	—
Husky Oil Operations Ltd.— Prince George	10,250	—	—	—	¹ 3,300	¹ 1,600	—	¹² 14,000	—	—	—	³ 900	—	—	—	—	7	—
Total	65,250	11,000	—	—	21,300	10,600	—	44,000	3,000	850	—	10,900	—	—	—	—	35	2,000
New Brunswick																		
Irving Oil Ltd.—St. John	250,000	100,000	—	² 20,000	¹ 95,000	¹ 35,000	^c ¹ 34,000	¹ 48,000	¹ 16,000	—	—	¹ 10,000	—	—	¹ 470	—	200	—
								³ 14,000 ⁴ 30,000										
Total	250,000	100,000	—	20,000	95,000	35,000	34,000	92,000	16,000	—	—	10,000	—	—	470	—	200	—
Newfoundland																		
North Atlantic Refining Ltd.—Come By Chance	115,000	55,000	—	² 18,000	—	¹ 31,500	^c ⁴ 37,000	² 21,000	—	—	—	—	—	—	¹ 53.0	—	185	—
								⁵ 25,000										
Total	115,000	55,000	—	18,000	—	31,500	37,000	46,000	—	—	—	—	—	—	53.0	—	185	—
Nova Scotia																		
Imperial Oil—Dartmouth	82,200	41,500	—	—	¹ 31,300	¹ 10,300	—	¹ 10,300	—	¹ 4,200	—	—	—	—	—	—	52	1,600
								² 17,200 ⁵ 14,700 ⁷ 17,400										
Total	82,200	41,500	—	—	31,300	10,300	—	59,600	—	4,200	—	—	—	—	—	—	52	1,600
Ontario																		
Imperial Oil—Nanticoke	112,000	47,500	—	—	¹ 47,500	³ 33,250	—	¹ 25,500	¹ 11,900	—	—	—	—	—	—	—	100	10,340
								⁵ 28,500 ⁷ 9,500 ¹² 44,100										
Imperial Oil—Sarnia	120,800	31,500	¹ 24,100	—	¹ 29,500	¹ 17,100	³ 17,480	⁵ 15,700	—	—	¹ 5,550	—	5,600	—	¹ 27.4	850	170	—
						² 16,800		⁷ 21,300							⁵ 27.4			

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
								¹ 5,600 ¹³ 53,000							⁶ 25.1			
Nova Chemicals (Canada) Ltd.— Corunna	80,000	33,000	—	¹ 67,000	—	—	—	—	—	—	¹ 10,200	—	—	—	—	—	—	—
Shell Canada Ltd.—Sarnia	71,000	24,400	—	² 4,430	¹ 14,000	¹ 22,040	¹ 6,300	¹ 15,000	—	¹ 1,340	¹ 3,140	—	—	—	—	—	—	—
Suncor Energy Products—Sarnia	70,000	18,500	—	² 6,700	² 16,700	¹ 26,200	^c ¹ 24,800	⁶ 6,000 ¹ 25,000 ⁴ 5,800 ¹² 10,200	² 5,500	—	¹ 10,200	—	—	—	^a ¹ 41.0	—	52	5,500
Total	453,800	154,900	24,100	78,130	107,700	115,390	48,580	265,200	17,400	1,340	29,090	—	5,600	—	120.9	850	322	15,840
Quebec																		
Petro-Canada Products Ltd. Montreal	129,800	49,400	—	—	¹ 28,000	¹ 30,200	^c ⁴ 17,100	¹ 32,700	¹ 2,700	¹ 800	¹ 19,700	—	—	—	¹ 45.6	—	—	24,800
								⁵ 45,100 ¹² 27,600										
Shell Canada Ltd.—Montreal	121,000	52,000	—	² 14,610	¹ 27,900	¹ 20,910	¹ 14,100	¹ 49,500	² 2,660	—	—	³ 6,000	3,380	—	—	—	—	6,540
Valero Energy Corp. (Ultramar Ltd.)—Levis	215,000	48,000	—	—	¹ 66,000	¹ 19,000	—	⁴ 27,000 ¹ 48,000	—	¹ 5,200	—	³ 20,250	—	—	—	—	80	—
						³ 31,000		² 20,750 ⁴ 40,000 ⁵ 70,000 ¹² 46,000										
Total	465,800	149,400	—	14,610	121,900	101,110	31,200	406,650	5,360	6,000	19,700	26,250	3,380	—	45.6	—	80	31,340
Saskatchewan																		
Consumers' Cooperative Refineries Ltd.—Regina	100,000	41,000	² 10,000	—	¹ 25,000	¹ 12,000	^c ¹ 18,000	¹ 14,000	—	¹ 5,000	—	—	—	—	¹ 102.0	480	400	—
						⁴ 4,000		² 4,000 ⁷ 7,000 ⁹ 33,000 ¹⁰ 35,000 ¹² 16,000							⁴ 28.0			
Total	100,000	41,000	10,000	—	25,000	16,000	18,000	109,000	—	5,000	—	—	—	—	130.0	480	400	—
CHILE																		
Empresa Nacional de Petroleo— Aconcagua	97,650	37,800	—	¹ 7,560	¹ 28,490	¹ 13,860	^m ¹ 26,460	—	¹ 910	—	—	¹ 4,730	—	¹ 1,580	—	—	45	—
Empresa Nacional de Petroleo— Gregorio	15,750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Empresa Nacional de Petroleo— BioBio	113,400	47,250	¹ 13,860	¹ 6,300	¹ 22,050	¹ 12,600	^c ¹ 23,940	—	—	—	—	¹ 3,780	—	—	—	656	45	—
Total	226,800	85,050	13,860	13,860	50,540	26,460	50,400	—	910	—	—	8,510	—	1,580	—	656	90	—
CHINA																		
China National Petroleum Corp.—Dalian	210,000	—	—	—	70,000	3,000	—	6,000	² 2,000	—	—	—	6,000	—	—	—	—	—
China National Petroleum Corp.— Fushun	200,000	—	² 35,000	—	66,000	23,000	8,000	5,000	¹ 3,000	—	—	—	1,000	—	—	825	—	—

[illegible]

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Sinopec—Jinan	100,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Jinmen	70,000	—	² 8,000	—	20,000	3,000	8,000	14,000	—	—	—	—	2,000	—	—	270	—	—
Sinopec—Jiujiang	80,000	—	³ 8,000	—	24,000	3,000	—	8,000	—	—	—	—	—	—	—	—	—	—
Sinopec—Luoyang	100,000	—	—	—	40,000	14,000	—	16,000	² 2,000	—	—	—	—	—	—	—	—	—
Sinopec—Maoming	270,000	—	² 12,000	—	32,000	3,000	16,000	² 16,000	² 1,000	—	—	—	5,000	—	—	400	—	—
Sinopec—Nanjing	270,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Nanjing	160,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Ningbo	320,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Qingdao	50,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Quanzhou	80,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Shanghai	176,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Shanghai	226,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Shijiazhuang	100,000	—	—	—	24,000	—	—	—	² 1,000	—	—	—	—	—	—	—	—	—
Sinopec—Tianjin	100,000	—	—	—	35,000	4,000	—	—	² 1,000	—	—	—	—	—	—	—	—	—
Sinopec—Xian	50,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Wuhan	80,000	—	³ 8,000	—	20,000	—	—	—	² 1,000	—	—	—	—	—	—	—	—	—
Sinopec—Yueyang	100,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Zhanjiang	100,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sinopec—Zhenhai	403,000	200,000	² 27,000	—	90,000	60,000	20,000	250,000	—	—	² 1,000	—	—	—	—	1,600	460	—
Sinopec—Zibo	210,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
West Pacific Petrochemical Corp. Dalian	160,000	40,000	—	—	37,000	¹ 14,000	—	¹ 7,000	¹ 2,500	—	—	—	—	¹ 900	—	—	300	—
								24,000										
								19,000										
								¹⁰ 35,000										
Yanan Refinery—Luochuan	60,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6,246,000	240,000	156,000	—	588,000	156,000	52,000	441,000	15,500	—	21,000	—	18,000	900	—	4,020	760	—
CHINA, TAIWAN																		
Chinese Petroleum Corp.— Kaohsiung	270,000	75,500	² 15,000	—	¹ 25,000	² 15,000	—	² 20,000	—	—	¹ 14,000	³ 10,000	—	³ 3,616	—	2,722	900	12,120
								⁸ 25,000										
								¹⁰ 30,000										
Chinese Petroleum Corp.—Ta-Lin	300,000	—	—	—	¹ 25,000	³ 55,000	—	¹⁰ 60,000	—	—	—	³ 10,000	5,300	—	—	—	250	—
Chinese Petroleum Corp.— Tao-Yuan	200,000	36,000	—	—	—	² 20,000	—	¹⁰ 45,000	—	—	—	³ 6,000	—	—	⁴ 52.0	—	595	—
						³ 25,000												
Formosa Petrochemical Co.— Mailiao	520,000	80,000	² 36,000	—	¹ 167,900	—	—	⁵ 126,000	¹ 14,200	—	—	—	—	¹ 4,500	² 270.0	1,500	1,500	5,500
								⁸ 52,000							⁴ 19.0			
								¹⁰ 161,000										
Total	1,290,000	191,500	51,000	—	217,900	115,000	—	519,000	14,200	—	14,000	26,000	5,300	8,116	341.0	4,222	3,245	17,620

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
COLOMBIA																		
Empresa Colombiana de Petroleos—Apiay	2,250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Empresa Colombiana de Petroleos—Barrancabermeja- Santander	205,000	101,000	—	² 33,000	¹ 64,000	—	—	⁸ 19,800	¹ 2,100	—	¹ 1,600	—	1,400	—	¹ 18.0	—	—	—
Empresa Colombiana de Petroleos—Cartagena, Bolivar	75,000	40,000	—	² 19,000	¹ 26,000	—	—	—	—	¹ 2,100	³ 600	—	—	—	—	—	—	—
Empresa Colombiana de Petroleos—Orito, Putumayo	1,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Empresa Colombiana de Petroleos—Tibu, N. de Santander	1,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	285,850	141,000	—	52,000	90,000	—	—	19,800	2,100	2,100	2,200	—	1,400	—	18.0	—	—	—

CONGO, REPUBLIC OF

Coraf—Pointe-Noire	21,000	8,000	—	—	—	¹ 2,000	¹ 2,000	3,500	—	—	—	—	—	—	—	—	—	—
Total	21,000	8,000	—	—	—	2,000	2,000	3,500	—	—	—	—	—	—	—	—	—	—

COSTA RICA

Refinadora Costarricense de Petroleo SA—Limon	24,000	600	—	¹ 6,500	—	¹ 1,200	—	2,000	—	—	—	—	—	—	—	—	—	—
Total	24,000	600	—	6,500	—	1,200	—	2,000	—	—	—	—	—	—	—	—	—	—

CROATIA

Ina-Industrija Naft e d.d.—Rijeka	89,980	33,996	—	² 12,001	¹ 20,002	¹ 14,454	^m ² 12,264	⁵ 22,776	—	—	—	³ 5,431	—	—	—	—	60	—
Ina-Industrija Naft e d.d.—Sisak	80,000	16,000	² 5,000	—	¹ 10,000	¹ 15,000	—	¹ 15,000	—	—	—	—	—	—	—	200	—	—
								⁵ 5,700										
Ina-Industrija Naft e d.d.—Zagreb	^{80,337}	^{37,044}	—	² 11,525	¹ 21,000	¹ 19,914	—	⁵ 24,780	—	—	¹ 9,438	—	470	—	—	—	63	—
Total	250,317	87,040	5,000	23,526	51,002	49,368	12,264	68,256	—	—	9,438	5,431	470	—	—	200	123	—

CUBA

Cuba Petroleos—Cienfuegos	76,000	—	—	—	—	¹ 7,500	—	¹ 7,700	—	—	—	—	—	—	—	—	—	—
Cuba Petroleos—Ermonos Dias, Santiago	101,500	37,500	—	—	—	¹ 7,500	—	¹ 7,700	—	—	—	—	—	—	5.0	—	—	540
								22,000										
Cuba Petroleos—Niko Lopes, Habana	121,800	38,200	—	—	¹ 14,700	¹ 5,000	—	¹ 5,250	—	—	—	—	—	—	—	—	—	540
								13,200										
Cuba Petroleos—Serhio Soto, Cabaiguan	2,100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	301,400	75,700	—	—	14,700	20,000	—	55,850	—	—	—	—	—	—	5.0	—	—	1,080

CZECH REPUBLIC

Czech Refining Co.—Kralupy	62,000	13,000	—	—	—	¹ 7,480	—	¹ 17,120	—	—	—	² 4,510	—	¹ 2,160	^a ² 8.0	—	24	—
								⁴ 6,000										
								⁵ 18,410										
								¹ 24,500										
Czech Refining Co.—Litvinov	101,000	58,870	—	² 17,000	—	¹ 9,370	^c ¹ 28,430	¹ 20,750	—	—	660	³ 2,700	1,880	—	^a ² 104.0	—	120	7,880
						³ 10,620	^c ³ 6,000	⁴ 6,000										
								⁵ 25,000										

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Koramo Kolin—Kolin	—	—	—	—	—	—	—	—	—	—	—	—	2,500	—	—	—	—	—
Paramo AS—Pardubice	20,000	7,000	—	—	—	—	—	6,000	—	—	—	—	300	—	—	—	—	3,000
Total	183,000	78,870	—	17,000	—	27,470	34,430	103,780	—	—	660	7,210	4,680	2,160	112.0	—	144	10,880
DENMARK																		
AS Dansk Shell—Fredericia	68,000	—	—	¹ 36,550	—	¹ 13,390	—	² 22,760	—	—	—	³ 6,400	—	—	—	—	—	—
Dansk Statoil AS—Kalundborg	106,400	22,000	—	² 28,000	—	¹ 8,600	—	¹ 8,600	—	—	—	—	—	—	—	—	—	8,000
Total	174,400	22,000	—	64,550	—	21,990	—	42,760	—	—	—	6,400	—	—	—	—	—	8,000
DOMINICAN REPUBLIC																		
Falconbridge Dominicana C por A—Bonao	16,000	—	—	—	—	—	—	² 6,213	—	—	—	—	—	—	² 0.6	—	—	—
Refineria Dominicana de Petroleo SA—Haina	31,000	—	—	—	—	¹ 8,200	—	¹ 14,600	—	—	—	—	—	—	—	—	—	—
Total	47,000	—	—	—	—	8,200	—	20,813	—	—	—	—	—	—	0.6	—	—	—
ECUADOR																		
Petroecuador—Esmeraldas	110,000	45,300	—	² 31,500	¹ 18,000	¹ 2,800	—	⁹ 24,500	—	—	—	—	—	—	—	—	—	—
						³ 10,000												
PetroecuadorLa —Libertad	46,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Petroecuador—Shushufindi	20,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	176,000	45,300	—	31,500	18,000	12,800	—	24,500	—	—	—	—	—	—	—	—	—	—
EGYPT																		
Alexandria Petroleum Co.— Alexandria (El-Mex)	100,000	22,500	—	—	—	—	—	¹¹ 1,436	—	—	¹ 603	—	1,436	—	¹ 1.0	1	—	2,010
								¹³ 21,000			² 281							
Ameriya Petroleum Refining Co.—Alexandria	78,000	15,000	—	—	—	¹ 12,000	—	² 14,000	² 9,000	—	¹ 700	—	2,000	—	² 4.0	—	—	—
								4,000										
								7,000										
								10,000										
								¹³ 700										
								¹¹ 1,800										
Assiut Petroleum Refining Co.—Assiut	47,000	—	—	—	—	³ 7,000	—	—	—	—	—	—	—	—	—	—	—	—
Cairo Petroleum Refining Co.— Mostorod	145,000	—	—	—	—	¹ 9,000	—	¹ 11,700	—	—	—	—	—	—	—	—	—	—
								14,400										
Cairo Petroleum Refining Co.—Tanta	35,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
El-Nasr Petroleum Co.—El-Suez	146,300	—	—	—	—	—	—	¹³ 32,000	—	—	—	—	—	—	—	—	—	2,613
El-Nasr Petroleum Co.—Wadi-Feran	8,550	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Middle East Oil Refinery— Alexandria	100,000	48,200	² 22,800	—	—	³ 21,700	¹ 33,500	¹ 32,400	—	—	—	³ 10,700	—	—	¹ 54.0	1,060	290	—
								⁵ 28,600										

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Suez Petroleum Processing Co.—El-Suez	66,400	9,500	² 16,470	—	—	¹ 12,540	—	¹ 16,660	—	—	—	—	1,005	—	⁷ 3.5	540	—	—
								¹⁰ 800										
								¹¹ 1,306										
Total	726,250	95,200	39,270	—	—	62,240	33,500	207,802	9,000	—	1,584	10,700	4,441	—	62.5	1,601	290	4,623

EL SALVADOR

Esso Caribbean and Central America—Acajutla	22,000	4,000	—	—	—	¹ 3,200	—	¹ 5,500	—	—	—	—	—	—	—	—	—	—
								⁴ 2,500										
								⁷ 7,500										
Total	22,000	4,000	—	—	—	3,200	—	15,500	—	—	—	—	—	—	—	—	—	—

ERITREA

Petroleum Corp. of Eritrea—Assab	14,564	2,219	—	—	—	¹ 1,465	—	⁸ 2,742	—	—	—	—	—	—	—	—	—	—
Total	14,564	2,219	—	—	—	1,465	—	2,742	—	—	—	—	—	—	—	—	—	—

FINLAND

Neste Oil—Naantali	51,800	28,100	—	² 7,380	² 12,900	³ 6,930	—	¹ 8,100	—	¹ 540	—	—	—	—	—	—	60	5,700
								⁴ 4,320										
								⁵ 16,200										
								⁸ 6,030										
								¹² 4,500										
Neste Oil—Porvoo	200,000	70,100	—	¹ 23,400	¹ 12,900	³ 37,500	¹ 52,900	¹ 60,400	² 6,980	—	—	—	4,000	¹ 2,560	¹ 118.0	—	360	—
							² 41,800	⁵ 62,900						³ 2,590				
Total	251,800	98,200	—	30,780	25,800	44,430	94,700	162,450	6,980	540	—	—	4,000	5,150	118.0	—	420	5,700

FRANCE

Cie. Rhenane de Raffinage*— Reichstett-Vendenheim	78,000	33,580	—	² 17,750	¹ 13,420	¹ 12,900	—	¹ 20,220	—	—	—	—	—	—	—	—	—	7,230
								⁵ 21,590										
								⁹ 19,000										
ExxonMobil Refining & Supply Co.—Dunkirk	—	22,000	—	—	—	—	—	¹ 5,000	—	—	—	—	6,400	—	—	—	—	—
ExxonMobil Refining & Supply Co.—Fos sur Mer	119,000	41,000	—	—	¹ 30,000	¹ 21,000	—	¹ 34,000	—	—	—	—	—	—	—	—	110	—
								⁴ 24,000										
								⁵ 66,000										
								¹² 8,000										
ExxonMobil Refining & Supply Co.—Port Jerome/NDG	233,000	103,000	—	—	¹ 38,000	¹ 31,000	—	¹ 34,000	¹ 8,000	—	—	³ 9,000	13,000	—	⁶ 8.0	—	285	7,000
								² 25,000										
								⁴ 34,000										
								⁵ 61,000										
								⁸ 54,000										
								¹¹ 6,500										

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Ineos—Lavera	207,100	72,200	—	² 21,600	¹ 27,900	¹ 10,800	¹ 16,200	² 25,200 48,600	—	—	—	³ 15,300	—	—	¹ 30.0	—	—	13,500
Ste. des Petroles Shell— Berre l'Etang	78,000	51,000	—	² 530	¹ 19,000	¹ 18,000	—	¹ 37,000 ⁵ 670	—	—	—	—	—	—	—	—	—	6,000
Ste. des Petroles Shell— Petit Couronne	141,000	76,000	—	² 12,520	¹ 21,630	¹ 28,000	—	¹ 48,000	—	—	—	—	6,800	—	¹ 10.0	—	21	11,000
Total SA—Donges	229,752	103,000	—	² 29,945	¹ 51,225	¹ 11,442 ³ 22,944	—	¹ 46,847 ² 5,397 ⁵ 73,135	² 5,511	—	—	³ 3,737	—	—	—	—	210	—
Total SA—Dunkirk	140,634	39,116	—	—	¹ 45,535	¹ 24,008	—	¹ 48,221 ⁵ 47,378	—	—	—	³ 26,932	—	² 1,688	—	—	105	—
Total SA—Feyzin	115,700	50,851	—	² 14,718	¹ 28,595	¹ 9,890	—	¹ 10,516 ² 2,356 ⁸ 45,720	¹ 4,463	—	—	—	—	² 2,128	—	—	101	—
Total SA—Gonfreville l'Orcher	331,069	89,980	—	² 19,895	¹ 47,850	¹ 57,280	46,371	¹ 116,076 ⁴ 43,390 ⁵ 87,169 ¹ 13,071	—	¹ 3,010	¹ 4,101	³ 21,408	9,690	² 2,014	⁸ 83.0	—	415	—
Total SA—Grandpuits	100,631	47,849	—	² 13,019	¹ 29,450	¹ 13,451	—	¹ 30,012 ⁸ 39,886	² 4,206	—	—	—	—	—	—	—	144	—
Total SA—La Mede	157,913	62,365	—	² 14,359	¹ 35,954	¹ 28,584	—	¹ 37,571 ⁵ 82,155	² 3,822	—	—	³ 23,192	—	—	—	—	205	—
Total	1,931,799	791,941	—	144,336	388,559	289,299	62,571	1,290,680	26,002	3,010	4,101	99,569	35,890	5,830	131.0	—	1,596	44,730
GABON																		
Ste. Gabonaise de Raffinage—Port Gentil	24,000	—	—	¹ 9,220	—	¹ 1,400	—	¹ 4,870 ⁵ 4,560	—	—	—	—	—	—	—	—	—	—
Total	24,000	—	—	9,220	—	1,400	—	9,430	—	—	—	—	—	—	—	—	—	—
GERMANY																		
Bayernoil Raffineriegesellschaft GMBH—Vohburg/Ingolstadt/ Neustadt	262,300	87,800	—	¹ 9,900	¹ 61,000	¹ 38,000	—	¹ 93,600 ² 38,900 ⁴ 8,600 ⁵ 75,000 ⁷ 20,500 ¹ 25,200	—	—	—	³ 14,200	—	¹ 1,170	⁵ 84.0	—	194	12,000
BP PLC*—Gelsenkirchen	266,000	163,100	² 32,600	² 19,870	¹ 30,200	³ 31,200	⁶ 145,300	¹ 37,200 ² 6,100 ³ 7,700 ⁴ 13,000 ⁵ 55,600	—	—	¹ 4,900 ³ 3,600 ⁴ 10,600	—	—	—	¹ 23.7 ³ 34.7 ⁴ 148.3	1,200	721	16,500

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd									Production capacity, b/cd								
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
ConocoPhillips—Wilhelmshaven	260,000	103,000	—	—	—	¹ 44,000	—	⁹ 36,000 ¹² 27,000 ¹⁹ 0,000	—	—	—	³ 9,000	—	—	—	—	100	—
Deutsche BP AG Erdol Raffinerie GMBH—Lingen	91,000	41,000	² 24,000	—	—	¹ 6,300	^c ² 29,900	¹² 2,000	—	—	¹ 7,100	³ 9,300	—	—	^a ¹ 44.0	670	112	—
						³ 24,000		² 9,300			² 2,200				⁴ 44.0			
								⁴ 8,000			³ 6,500				⁵ 50.0			
Deutsche Shell AG—Rheinland	345,861	178,353	—	¹ 5,432 ² 49,154	—	¹ 17,708 ³ 48,309	¹ 85,598	¹ 82,292 ² 6,717 ³ 60,068 ⁴ 74,653 ⁵ 101,872	—	¹ 1,301	¹ 25,000	² 13,644	—	¹ 1,642	¹ 39.7 ³ 77.3 ⁴ 72.8	—	526	—
Deutsche Shell AG—Harburg	93,000	44,000	—	² 13,070	¹ 17,000	³ 16,000	—	¹ 29,000 ³ 2,000 ⁹ 16,000	—	—	—	³ 4,000	5,620	—	—	—	80	5,250
H&R Chemisch-Pharmazeutische Spezialitaeten GMBH—Salzbergen	—	6,800	—	—	—	—	—	¹¹ 3,700	—	—	—	—	3,800	—	—	—	—	—
H&R Oelwerke Schindler GMBH— Hamburg	—	15,000	—	—	—	—	^c ³ 800	¹³ 1,100 ¹¹ 1,620	—	—	—	—	4,800	—	—	—	—	—
Holborn Europa Raffinerie GMBH— Harburg	78,000	15,000	—	—	¹ 18,750	¹ 14,700	—	¹ 31,700	—	—	—	—	—	—	—	—	—	—
Mineraloelraffinerie Oberrhein GMBH*—Karlsruhe	310,000	130,680	24,970	² 24,000	¹ 86,000	¹ 30,060	—	³ 3,500 38,400 ¹⁵ 2,000	² 13,000	—	—	³ 16,000	—	¹ 5,140	—	1,240	90	10,500
						³ 23,000		⁴ 3,000 ⁵ 130,000 ⁹ 76,660										
OMV AG—Burghausen	72,000	—	² 27,500	—	—	—	—	⁸ 65,000	—	—	² 2,300	—	—	—	⁷ 90.0	690	34	—
PCK Raffinerie GMBH*—Schwedt	219,000	141,360	—	² 47,880	¹ 49,910	¹ 17,860 ³ 17,000	^m ¹ 17,000	¹ 35,000 ⁴ 22,000 ⁵ 83,940 ⁹ 61,000	² 9,000	—	¹ 5,140	³ 16,000	—	¹ 2,700 ² 2,240	¹ 30.0	—	450	8,200
Petroplus Holdings AG—Ingolstadt ⁶	110,000	39,000	—	—	¹ 28,000	¹ 19,000	—	¹ 35,000 ⁴ 18,000 ⁵ 42,000	—	—	—	³ 7,000	—	—	¹ 11.0	—	66	3,800
Shell Deutschland Oil GMBH— Heide	83,000	37,000	—	² 15,000	—	² 18,000	¹ 16,000	¹ 25,000		7,000	¹ 6,000	³ 6,000		¹ 280	⁴ 28.0	—	60	4,380

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Total SA —Leuna, Spergau	226,922	119,269	—	² 24,239	¹ 59,311	³ 24,886	—	⁹ 1,000 ¹ 45,775	¹ 8,885	—	—	—	—	—	—	—	504	—
								⁵ 94,574 ⁸ 68,654										
Total	2,417,083	1,121,362	109,070	247,445	350,171	407,823	194,598	1,999,525	30,885	8,301	73,340	95,144	14,220	13,172	777.5	3,800	2,937	60,630

GHANA

Tema Oil Refinery Co. Ltd.—Tema	45,000	—	—	—	14,000	¹ 65,000	—	—	—	—	—	—	—	—	—	—	—	—
Total	45,000	—	—	—	14,000	65,000	—	—	—	—	—	—	—	—	—	—	—	—

GREECE

Hellenic Petroleum SA—Aspropyrgos	146,500	68,000	—	² 23,000	¹ 44,700	³ 24,900	—	¹ 40,200	—	—	—	³ 10,000	—	¹ 1,340	¹ 8.6	—	240	7,500
								² 27,150 ³ 20,385 ⁴ 15,000 ⁵ 35,000 ⁸ 43,800						³ 1,500				
Hellenic Petroleum SA—Elefsis	100,000	—	—	—	—	—	—	—	—	—	—	—	—	—	^a ⁷ 4.2	—	26	—
Hellenic Petroleum SA*—Thessaloniki	66,500	12,000	—	—	—	¹ 10,000	—	² 16,500	—	—	—	³ 8,300	—	—	^a ¹ 5.2	—	40	4,150
								⁴ 10,000 ⁵ 20,000										
Motor Oil (Hellas) Corinth Refineries SA—Aghii Theodori	110,000	72,000	—	² 26,000	¹ 30,850	³ 14,300	¹ 43,900	¹ 21,300	² 2,400	¹ 1,720	³ 9,100	² 5,350	3,500	¹ 1,100	¹ 5.5	—	213	5,300
								⁵ 70,600 ¹¹ 4,500 ¹² 18,000 ¹³ 19,200										
Total	423,000	152,000	—	49,000	75,550	49,200	43,900	361,635	2,400	1,720	9,100	23,650	3,500	3,940	23.5	—	519	16,950

HUNGARY

MOL Hungarian Oil & Gas Co.—Szazhalombatta	161,000	77,500	² 16,900	² 14,000	¹ 24,000	¹ 16,000	—	¹ 30,000	² 3,300	—	¹ 12,000	³ 3,500	6,100	¹ 1,200	¹ 25.4	600	226	6,300
						³ 13,600		² 700 ⁴ 9,000 ⁵ 41,000 ⁸ 35,000 ¹¹ 3,800 ¹³ 1,200 ⁵ 14,000							⁴ 50.8			
MOL Hungarian Oil & Gas Co.—Tiszaujvaros														¹ 700			21	
Total	161,000	77,500	16,900	14,000	24,000	29,600	—	134,700	3,300	—	12,000	3,500	6,100	1,900	76.2	600	247	6,300

INDIA

Bharat Petroleum Co. Ltd.—Mahul, Bombay	120,000	39,000	—	—	¹ 28,755	¹ 5,503	—	—	—	—	¹ 2,175	—	—	—	—	—	—	10,000
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WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Bharat Petroleum Co. Ltd.— Numaligarh, Assam	60,000	—	8,400	—	—	2,000	22,000	29,000	—	—	—	—	—	—	—	71	4	—
Bongaigaon Refinery & Petrochemicals Ltd.—Bongaigaon Assam	27,110	—	² 9,675	—	—	¹ 1,833	—	¹ 1,833	—	—	¹ 694	—	—	—	—	203	—	—
Chennai Petroleum Corp. Ltd.— Madras	130,660	66,866	—	—	¹ 11,250	¹ 2,138	—	¹ 2,138	—	—	—	—	5,110	—	¹ 10.0	—	17	3,877
								⁴ 22,612 ⁷ 5,110										
Hindustan Petroleum Corp. Ltd.— Mahul, Mumbai	132,000	63,420	—	—	¹ 20,000	—	—	⁵ 37,000	—	—	—	—	—	—	² 170	—	65	—
Hindustan Petroleum Corp. Ltd.— Vishakapatnam	164,250	—	—	² 20,580	¹ 32,900	—	—	⁵ 47,104	—	—	¹ 3,123	—	—	¹ 1,396	¹ 21.2	—	162	4,091
Indian Oil Co. Ltd.—Barauni, Bihar	65,800	23,700	² 20,000	—	—	—	—	—	—	—	—	—	—	—	—	540	—	—
Indian Oil Co. Ltd.—Digboi, Assam	11,700	—	² 850	—	—	—	—	—	—	—	—	—	30	—	—	26	—	400
Indian Oil Co. Ltd.—Gawahati, Assam	19,920	—	² 6,000	—	—	—	—	—	—	—	—	—	—	—	—	145	—	—
Indian Oil Co. Ltd.—Haldia, West Bengal	61,000	27,000	—	² 9,600	—	¹ 5,300	—	¹ 5,300	—	—	—	—	3,100	—	—	—	—	7,500
								13,400										
								¹ 13,100										
Indian Oil Co. Ltd.—Koyali, Gujarat	185,100	98,000	—	² 19,500	¹ 20,000	¹ 8,300	—	¹ 8,300	—	—	¹ 1,450	—	—	—	² 42.7	—	—	4,400
Indian Oil Co. Ltd.—Mathura, Uttar Pradesh	156,000	47,000	—	² 18,000	¹ 20,000	—	—	—	—	—	—	—	—	—	—	—	—	7,500
Indian Oil Co. Ltd.—Panipat	120,000	62,000	—	² 6,500	¹ 13,400	³ 12,000	32,600	—	—	—	—	—	—	—	—	—	84	—
Kochi Refineries Ltd.— Ambalamugal	152,000	80,000	—	² 19,000	¹ 27,000	¹ 4,599	—	² 5,913	—	—	¹ 2,300	—	—	—	¹ 21.0	—	120	—
								⁴ 8,541 ⁵ 41,391							⁴ 21.0			
Chennai Petroleum Corp. Ltd.— Cauvery Basin	10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mangalore Refinery & Petrochemicals Ltd.—Mangalore	180,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Reliance Petroleum Ltd.— Jamnagar	660,000	—	124,700	—	¹ 130,000	—	—	—	—	—	—	—	—	—	—	5,495	—	—
Total	2,255,540	506,986	169,625	93,180	303,305	41,673	54,600	230,742	—	—	9,742	—	8,240	1,396	132.9	6,480	452	37,768

INDONESIA

Pertamina—Balikpapan, Kalimantan	240,920	89,110	—	—	—	³ 18,720	¹ 49,500	—	—	—	—	—	—	—	—	—	—	—
Pertamina—Balongan	125,000	—	—	—	¹ 83,000	—	—	—	—	—	—	—	—	—	—	—	—	—
Pertamina—Cepu	3,420	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pertamina—Cilacap, Central Java	348,000	37,600	—	² 50,040	—	³ 30,690	—	¹ 12,000	—	—	—	—	—	—	—	—	—	—
Pertamina—Dumai, Central Sumatra	114,000	87,970	² 32,580	—	—	³ 12,870	¹ 50,220	11,430	—	—	—	—	—	—	—	—	—	—
Pertamina—Musi, South Sumatra	109,155	51,300	—	¹ 8,820	¹ 18,450	³ 30,690	—	—	¹ 16,200	—	—	—	—	—	—	—	—	—
Pertamina—Pangkalan Brandan, North Sumatra	4,750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Pertamina—Sungai Pakning, Central Sumatra	47,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	992,745	265,980	32,580	58,860	101,450	92,970	99,720	23,430	16,200	—	—	—	—	—	—	—	—	—
IRAN																		
National Iranian Oil Co.—Abadan	350,000	55,000	—	280,000	135,000	124,000	—	126,000	—	—	—	—	1,500	—	—	—	—	1,000
National Iranian Oil Co.—Arak	170,000	71,000	—	127,300	—	21,600	c 124,500	121,600	—	—	—	—	—	—	250.0	—	60	5,500
National Iranian Oil Co.—Bandar Abbas	232,000	126,000	—	231,000	—	36,000	c 128,000	136,000	—	—	—	—	—	—	150.0	—	130	5,000
								425,000										
National Iranian Oil Co.—Isfahan	284,000	119,000	—	292,000	—	129,600	c 130,000	13,000	—	—	—	—	10,400	—	170.0	—	70	9,700
National Iranian Oil Co.— Kermanshah	25,000	—	—	—	—	12,600	—	13,000	—	—	—	—	—	—	—	—	—	—
								43,100										
National Iranian Oil Co.— Lavan Island	30,000	—	—	—	—	16,200	—	17,000	—	—	—	—	—	—	—	—	—	—
National Iranian Oil Co.—Shiraz	40,000	18,400	—	29,000	—	16,200	c 19,000	13,100	—	—	—	—	—	—	1170	—	30	1,500
								43,800										
National Iranian Oil Co.—Tabriz	100,000	50,000	—	116,500	—	111,200	c 115,000	111,100	—	—	—	—	—	—	134.0	—	80	5,000
	—	—	—	—	—	—	—	413,200										
National Iranian Oil Co.—Tehran	220,000	120,000	—	235,000	—	127,300	c 130,000	127,260	—	—	—	—	7,700	—	165.0	—	100	8,800
Total	1,451,000	559,400	—	290,800	35,000	164,700	136,500	183,160	—	—	—	—	19,600	—	286.0	—	470	36,500
IRAQ																		
Iraqi Co. for Oil Operations—Kirkuk	2,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Midland Refineries Co.— Daura, Bagdad	110,000	20,000	—	—	—	15,000	18,000	31,000	—	—	—	—	2,420	—	—	—	—	838
						25,000	25,000											
							413,241											
Oil Refineries Administration—Baiji	310,000	105,000	—	—	—	46,000	38,000	182,000	—	—	—	—	5,000	—	64.0	—	—	26,000
Oil Refineries Administration— Basra	150,000	20,000	—	—	—	16,000	—	70,000	—	—	—	—	2,000	—	—	—	—	7,000
Oil Refineries Administration— K3-Haditha	7,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oil Refineries Administration— Khanaqin	12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oil Refineries Administration— Muthia	4,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Oil Refineries Administration— Qaiyarah Mosul	2,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,900
Total	597,500	145,000	—	—	—	82,000	74,241	283,000	—	—	—	—	9,420	—	64.0	—	—	38,738
IRELAND																		
ConocoPhillips—Whitegate	71,000	—	—	—	—	211,000	—	111,000	—	—	—	37,600	—	—	610.3	—	4	—
								27,600										
								726,000										
Total	71,000	—	—	—	—	11,000	—	44,600	—	—	—	7,600	—	—	10.3	—	4	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
ISRAEL																		
Oil Refineries Ltd.—Ashdod	90,000	45,000	—	² 25,000	¹ 27,500	¹ 11,500	—	² 20,000 30,000	—	—	—	—	—	¹ 750	—	—	—	—
Oil Refineries Ltd.—Haifa	130,000	73,000	—	² 41,000	¹ 22,000	¹ 15,000	—	² 16,000 30,000	—	² 2,200	—	—	—	—	—	—	—	2,700
Total	220,000	118,000	—	66,000	49,500	26,500	—	96,000	—	2,200	—	—	—	750	—	—	—	2,700

ITALY

AgipPetroli SPA—Gela, Ragusa	105,000	52,500	² 45,000	—	¹ 35,000	² 13,850	—	¹ 16,500 42,500 35,000	² 10,000	—	¹ 6,700 ² 700	¹ 8,050	—	¹ 1,100 ³ 1,200	³ 170 ⁵ 8.0	2,000	—	—
AgipPetroli SPA—Livorno	84,000	36,000	—	—	—	³ 14,000	—	² 22,000 31,700	—	—	—	³ 6,000	10,000	—	—	—	—	3,500
AgipPetroli SPA—Porto Marghera	80,000	38,000	—	¹ 13,500 ² 27,000	—	³ 15,000	—	² 16,000 27,000	—	—	—	³ 6,000	—	—	—	—	—	3,500
AgipPetroli SPA—Sannazzaro, Pavia	200,000	84,500	—	² 32,000	¹ 34,000	² 12,000 ³ 16,700	¹ 30,000	¹ 12,000 27,000 41,000	² 3,200	—	—	² 12,000	—	¹ 920	² 35.0	—	—	2,500
AgipPetroli SPA—Taranto	84,000	60,590	—	¹ 27,000 ² 37,250	—	² 17,000	¹ 15,500	² 24,000 43,000	—	—	—	³ 6,000	—	—	² 39.5	—	—	2,500
Api Raffineria di Ancona SPA*— Falconara, Marittima	82,900	37,500	—	¹ 36,500	—	¹ 14,000	—	¹ 25,000	—	—	—	³ 15,000	—	—	¹ 72	—	120	—
Arcola Petrolifera SPA—La Spezia	33,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ERG Raffinerie Mediterranee North—Priolo, Sicily	225,000	48,000	—	² 24,000	¹ 33,000	¹ 9,000	—	¹ 9,000	4,000	—	⁴ 6,000	—	—	¹ 1,000	—	46	—	—
ERG Raffinerie Mediterranee South—Melilli, Sicily	238,000	106,000	—	¹ 32,000 ² 43,000	—	² 36,000	^m ¹ 62,000	¹ 63,000 434,000 570,000	—	—	—	³ 9,000	—	—	² 16.0	—	360	3,000
ExxonMobil Refining & Supply Co.—Augusta, Siracusa	198,000	93,000	—	—	¹ 47,000	¹ 23,000	—	¹ 24,000 422,000 534,000 821,000 ¹¹ 24,000	² 9,000	—	—	¹ 5,000	18,000	—	—	—	200	—
ExxonMobil Refining & Supply Co.—S. Martino Di Trecate	174,000	28,000	—	—	¹ 33,000	¹ 18,000	—	¹ 60,000 421,000 544,000	—	¹ 1,000	—	³ 12,000	—	—	⁴ 13.0	—	45	—
Iplom SPA—Busalla	39,500	19,500	—	—	—	—	—	¹² 11,000 99,500	—	—	—	—	—	—	46.8	—	37	—
Italiana Energia E Servizi SPA— Mantova	69,420	24,920	—	¹ 12,460	—	² 8,900	^m ¹ 16,910	¹ 16,020	—	—	—	³ 3,115	—	—	—	—	86	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
					² 30,260				⁵ 31,150									
								⁷ 8,000										
Raffineria di Milazzo SPA— Milazzo, Messina	241,300	69,700	—	—	¹ 44,500	¹ 12,900	^c ¹ 33,900	² 21,000	¹ 5,130	—	—	—	—	¹ 1,500	¹ 33.7	—	412	—
							² 23,400	¹² 28,000							² 49.0			
Raffineria di Roma SPA—Rome	89,109	11,027	—	² 31,734	—	¹ 14,219	—	¹ 22,845	—	—	—	³ 19,095	—	—	—	—	41	706
								⁵ 28,438										
Saras SPA—Sarroch	300,000	105,000	—	² 41,000	¹ 86,000	³ 29,000	^m ¹ 105,000	¹ 29,000	² 8,000	—	—	—	—	³ 6,000	^a ³ 36.0	—	440	—
								⁴ 28,000							⁴ 26.0			
								⁵ 50,000										
Tamoi Raffinazione SPA—Cremona	94,000	—	—	² 36,000	—	¹ 9,000	¹ 6,500	¹ 24,000	—	—	—	³ 11,000	—	—	⁴ 5.2	—	42	—
						³ 15,000		² 9,000										
								⁴ 7,500										
								⁵ 29,500										
								¹² 2,500										
Total	2,337,229	814,237	45,000	448,204	312,500	286,569	293,210	1,209,253	39,330	1,000	13,400	112,260	28,000	11,720	292.4	2,046	1,783	15,706
IVORY COAST																		
Societe Ivoirienne de Raffinage— Abidjan	63,990	23,990	—	—	—	¹ 12,330	^c ¹ 14,480	¹ 14,270	—	—	—	—	—	—	—	—	—	4,330
								⁵ 13,040										
Total	63,990	23,990	—	—	—	12,330	14,480	27,310	—	—	—	—	—	—	—	—	—	4,330
JAMAICA																		
Petrojam Ltd.—Kingston	36,000	1,800	—	—	—	¹ 3,700	—	¹ 6,800	—	—	—	—	—	—	—	—	—	850
								⁴ 7,500										
								⁵ 9,500										
Total	36,000	1,800	—	—	—	3,700	—	23,800	—	—	—	—	—	—	—	—	—	850
JAPAN																		
Cosmo Oil Co. Ltd.*—Chiba	228,000	57,000	—	—	¹ 33,300	¹ 32,850	—	¹ 34,200	—	—	—	—	—	—	^a ¹ 88.0	—	600	—
								⁴ 56,700										
								⁵ 63,900										
								⁹ 31,500										
								¹⁰ 64,800										
Cosmo Oil Co. Ltd.*—Sakai	76,000	36,100	—	—	¹ 20,700	¹ 7,200	—	¹ 9,900	¹ 7,200	—	—	—	—	¹ 1,278	^a ¹ 11.0	—	140	—
								⁴ 26,100										
								⁵ 22,500										
								⁹ 18,000										
Cosmo Oil Co. Ltd.*—Sakaide	114,000	39,425	—	—	¹ 17,100	¹ 12,600	—	¹ 12,600	—	—	—	—	—	—	^a ¹ 34.0	—	265	—
								⁴ 21,600										
								⁵ 36,000										

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									Sulfur (t/d)	Asphalt
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)			
Cosmo Oil Co. Ltd.*—Yokkaichi	147,250	70,300	—	—	122,500	15,400	—	915,480	—	—	—	—	—	—	a 112.0	—	200	—	
								1027,000											
								117,550											
								312,150											
								431,500											
Fuji Oil Co. Ltd.—Sodegaura	192,000	55,000	324,000	—	118,000	328,000	—	527,000	12,400	—	121,000	—	—	—	—	1,223	360	—	
								937,350											
								143,000											
								443,500											
								22,100											
Idemitsu Kosan Co. Ltd.— Chita, Aichi	152,000	15,200	—	—	147,500	318,000	—	947,000	15,320	—	—	—	—	—	260.4	—	360	—	
								123,400											
								444,100											
								530,600											
								1054,000											
Idemitsu Kosan Co. Ltd.— Ichihara, Chiba	209,000	62,700	—	—	142,750	115,300	310,440	122,500	—	—	—	—	9,450	—	246.3	—	540	—	
								439,600											
								554,000											
								835,100											
								1036,000											
Idemitsu Kosan Co. Ltd.— Shunan, Yamaguchi	114,000	52,250	—	—	124,700	318,000	—	118,000	—	—	—	—	—	—	217.1	—	176	—	
								431,500											
								518,000											
								840,500											
								124,300											
Idemitsu Kosan Co. Ltd.— Tomakomai, Hokkaido	133,000	22,800	—	—	128,500	116,200	c 114,850	124,300	—	—	—	—	—	—	a 253.7	—	356	—	
								429,970											
								522,500											
								1034,200											
								137,800											
Japan Energy Corp.*— Mizushima, Okayama	194,940	103,550	223,400	—	146,800	118,000	c 227,900	14,590	—	—	111,700	—	5,513	—	127.0	—	640	9,000	
								444,010											
								221,600											
								2,000											
								555,800											
Kashima Oil Co., Ltd.*— Kashima, Ibaragi	180,500	39,900	—	—	131,050	319,800	—	863,000	—	—	15,123	—	—	—	a 130.4	—	300	—	
								115,850											
								1231,500											
								133,150											
								20,700											
								441,400											
								539,600											
								822,500											
								1027,000											

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Kyokuto Petroleum Industries Ltd.—Ichihara, Chiba	175,000	83,000	—	—	¹ 34,000	¹ 27,000	^m ¹ 40,000	¹² 23,400 ¹ 28,000	—	—	¹ 6,500	—	—	—	^a ² 30.0	—	220	—
Kyushu Oil Co. Ltd.—Oita	130,000	66,000	—	—	¹ 16,500	¹ 8,000	—	⁴ 33,500 ⁵ 50,000 ¹² 14,000 ¹ 9,000	—	—	—	—	—	—	⁷ 14.9	—	—	—
Nansei Sekiyu KK—Okinawa	90,000	—	—	—	—	¹ 12,000	—	27,000 33,000 ¹ 21,500	—	—	—	—	—	—	⁶ 4.5	—	—	—
Nihonkai Oil Co. Ltd.*—Toyama	57,000	10,450	—	—	—	¹ 5,400	—	⁴ 17,000 —	—	—	—	—	—	—	—	—	40	—
Nippon Oil Co. Ltd.—Mizushima	250,000	77,000	—	—	¹ 46,000	¹ 20,000 ³ 20,000	^c ¹ 13,000	¹ 45,000 ³ 45,000 ⁴ 4,300 ⁵ 40,000 ⁹ 40,000 ¹⁰ 37,000 ¹¹ 45,000	¹ 4,400	¹ 2,100	¹ 14,000	—	3,600	—	² 53.9 ⁶ 4.0	—	540	6,000
Nippon Oil Co. Ltd.—Muran	180,000	65,000	—	—	¹ 30,000	³ 36,000	^c ¹ 27,000	¹⁴ 1,100 ⁴ 59,000 ⁵ 40,000 ⁹ 22,000 ¹⁰ 45,000	—	—	¹ 74,000	—	—	—	^a ² 58.6	—	350	36,000
Nippon Oil Co. Ltd.—Negishi	340,000	130,000	—	—	¹ 83,000	¹ 20,000 ³ 30,000	—	¹ 16,000 ⁴ 69,500 ⁵ 75,000 ⁹ 62,500 ¹⁰ 81,000 ¹¹ 35,000	¹ 5,700	—	¹ 7,600	—	2,600	¹ 1,800	^a ¹ 22.9 ^a ² 28.2	—	660	9,000
Nippon Oil Co. Ltd.—Sendai	145,000	60,000	—	—	¹ 43,000	¹ 18,000	—	¹ 18,000 ⁴ 18,000 ⁹ 29,000 ¹⁰ 35,000	¹ 4,600	—	¹ 1,700	—	—	—	² 62.2	—	510	4,600
Nippon Oil Co. Ltd.—Takaishi, Osaka	115,000	60,000	—	—	¹ 27,000	¹ 14,000	—	¹ 52,000 ⁴ 22,000 ⁵ 25,000 ⁹ 21,000	¹ 3,600	—	¹ 2,050	—	—	—	12.0	—	280	—
Nippon Oil Co. Ltd.—Marifu, Yamguchi	127,000	64,000	² 22,000	—	¹ 28,000	³ 24,000	—	¹ 21,000	—	—	¹ 5,800	—	—	—	² 10.2	690	265	1,500

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd									Production capacity, b/cd								
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Okinawa Sekiyu Seisei— Yonashiro, Okinawa	100,000	—	—	—	—	³ 15,000	—	⁴ 32,000	—	—	—	—	—	—	² 22.0	—	300	—
								⁵ 22,000										
								⁹ 22,000										
								¹ 48,000										
								² 3,000										
Seibu Oil Co. Ltd.—Yamaguchi	111,000	44,040	—	—	¹ 27,230	¹ 19,040	—	² 3,000	—	¹ 500	—	¹ 3,000	—	—	² 42.4	—	300	30,820
								⁴ 25,980										
								⁵ 29,340										
								¹⁰ 50,330										
								¹ 67,320										
Showa Yokkaichi Sekiyu Co. Ltd.—Yokkaichi	205,010	105,430	—	—	² 59,000	¹ 15,390	—	¹ 9,000	—	—	¹ 8,310	³ 9,020	4,000	—	—	—	250	2,000
								³ 38,000										
								⁴ 61,950										
								⁵ 51,000										
								⁹ 37,000										
Taiyo Oil Co. Ltd.—Kikuma, Ehime	120,000	27,000	—	—	—	³ 33,000	^c ¹ 19,000	¹ 37,000	—	—	¹ 24,300	—	—	—	² 18.0	—	—	—
								⁴ 18,000										
								⁵ 30,000										
								¹⁰ 39,000										
								¹ 37,000										
Toa Oil Co. Ltd.—Mizue Factory, Kawasaki	65,000	57,000	¹ 24,000	—	¹ 33,000	¹ 8,000	—	⁵ 116,950	10,200	¹ 2,040	² 10,200	—	—	—	⁷ 45.8	—	380	—
								¹⁰ 20,000										
								⁴ 18,000										
								⁵ 30,000										
								¹⁰ 39,000										
Toa Oil Co. Ltd.—Ohgimachi Factory, Kawasaki	110,000	30,000	—	—	—	¹ 21,500	—	⁵ 92,000	—	—	¹ 15,000	³ 6,000	—	—	—	—	100	17,000
								¹⁰ 20,000										
								⁴ 18,000										
								⁵ 30,000										
								¹⁰ 39,000										
Tonen/General Sekiyu Seisei KK—Kawasaki	296,000	94,500	—	—	¹ 87,500	¹ 18,500	^c ² 22,500	¹ 49,000	¹ 8,000	—	—	—	—	—	² 45.0	—	525	—
								³ 30,500										
								² 16,500										
								⁴ 72,500										
								⁵ 82,000										
Tonen/General Sekiyu Seisei KK—Sakai	139,500	53,000	—	—	¹ 39,500	¹ 28,000	—	⁸ 79,000	—	—	¹ 23,500	—	—	—	¹ 20.5	—	340	—
								¹² 36,000										
								¹ 43,500										
								⁴ 30,500										
								⁵ 47,500										
Tonen/General Sekiyu Seisei KK—Wakayama	154,500	54,500	—	—	¹ 36,500	¹ 39,000	—	⁸ 39,000	¹ 3,000	—	—	—	7,000	—	¹ 19.5	—	175	—
								¹² 11,500										
								¹ 39,000										
								⁴ 41,500										
								⁵ 26,000										

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Wakayama Petroleum Refining Co. Ltd.—Kainan City, Wakayama	—	30,000	—	—	—	—	—	20,000	—	—	—	—	8,500	—	² 135.0	—	—	—
								¹¹ 9,000										
Total	4,650,700	1,665,145	93,400	—	923,130	725,430	174,690	4,523,700	68,010	7,860	245,083	23,350	40,663	3,078	1,354.7	1,913	9,172	115,920
JORDAN																		
Jordan Petroleum Refinery—Zarqa	90,400	21,500	—	—	¹⁴ 4,000	¹⁰ 9,900	^c ¹⁴ 4,350	¹¹ 7,300	—	—	—	—	—	—	²⁸ 8.0	—	—	4,250
															⁴⁸ 8.0			
Total	90,400	21,500	—	—	4,000	10,900	4,350	17,300	—	—	—	—	—	—	16.0	—	—	4,250
KAZAKHSTAN																		
Kazakoil—Atyrau	104,427	27,064	²¹ 3,720	—	—	¹⁸ 808	—	¹⁹ 200	—	—	—	—	—	—	—	500	—	—
Kazakoil—Pavlodar	162,666	93,973	²¹¹ 277	²³⁰ 071	¹³⁸ 356	¹²⁶ 178	—	¹²⁷ 200	—	—	—	—	—	—	¹²¹ 5	500	64	8,550
								49,863										
								⁸⁴⁶ 027										
PetroKazakhstan—Shymkent	78,000	—	—	²²² 000	—	¹¹⁶ 600	—	¹¹⁶ 600	—	—	—	—	—	—	—	—	60	—
								⁴⁹ 100										
								⁵¹⁹ 900										
Total	345,093	121,037	24,997	52,071	38,356	51,586	—	177,890	—	—	—	—	—	—	21.5	1,000	124	8,550
KENYA																		
Kenya Petroleum Refineries Ltd.—Mombasa	90,000	1,700	—	—	—	¹⁸ 260	—	¹³⁶ 000	—	—	—	—	—	—	—	—	—	1,000
Total	90,000	1,700	—	—	—	8,260	—	36,000	—	—	—	—	—	—	—	—	—	1,000
KUWAIT																		
Kuwait National Petroleum Co. *— Mina Abdulla	256,500	142,500	²⁷² 000	—	—	—	^c ¹³⁸ 250	²⁹ 000	—	—	—	—	—	—	^a ¹¹⁹⁶ 0	2,800	1,200	—
								⁴³⁶ 000							⁴³⁶ 6			
								⁵³⁶ 000										
								¹⁰¹⁰⁷ 100										
Kuwait National Petroleum Co. *— Mina Al-Ahmadi	442,700	80,750	—	—	¹³⁶ 000	³³² 400	^c ¹³⁶ 900	¹⁵¹ 300	¹⁵ 616	—	—	—	—	¹⁶ 561	¹¹⁹⁸ 0	—	1,600	—
								⁴¹⁸ 720							⁴⁸⁹ 0			
								⁵¹¹⁸ 440										
								¹⁰¹³⁰ 320										
Kuwait National Petroleum Co. *—Shuaiba	190,000	104,500	—	—	—	¹¹⁴ 220	¹⁴⁰ 500	¹²³ 400	—	—	—	—	—	—	¹²²² 0	—	1,400	—
								⁴³¹ 500										
								⁵²⁷ 000										
Total	889,200	327,750	72,000	—	36,000	46,620	115,650	588,780	5,616	—	—	—	—	6,561	741.6	2,800	4,200	—
KYRGYZSTAN																		
Kyrgoil—Dzhalalabad	10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
LIBERIA																		
Liberia Petroleum Refining— Monrovia	15,000	1,000	—	—	—	¹ 2,000	—	¹ 2,300	—	—	—	—	—	—	—	—	—	200
								¹ 0,000										
Total	15,000	1,000	—	—	—	2,000	—	3,300	—	—	—	—	—	—	—	—	—	200
LIBYA																		
Azzawiya Oil Refining Co.— Azzawiya and Benghazi	120,000	3,775	—	—	—	¹ 15,750	—	¹ 16,604	—	—	—	—	635	—	—	—	—	3,432
								⁶ 19,926										
Ras Lanuf Oil & Gas Processing Co.—Ras Lanuf	220,000	—	—	—	—	¹ 3,300	—	² 5,600	—	—	—	—	—	—	—	—	—	—
Sarir Refining—Sarir	10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sirte Oil Co.—Marsah El Brega	8,000	—	—	—	—	¹ 1,200	—	² 1,200	—	—	—	—	—	—	—	—	—	—
Tobruk Refining—Tobruk	<u>20,000</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Total	378,000	3,775	—	—	—	20,250	—	43,330	—	—	—	—	635	—	—	—	—	3,432
LITHUANIA																		
AB Mazeikiu Nafta*—Mazeikiai	190,000	89,300	—	² 28,800	¹ 43,200	¹ 45,900	—	⁴ 18,900	—	¹ 7,200	—	³ 18,900	—	¹ 2,700	¹ 25.0	—	320	—
								⁵ 81,000										
								⁸ 54,000										
Total	190,000	89,300	—	28,800	43,200	45,900	—	153,900	—	7,200	—	18,900	—	2,700	25.0	—	320	—
MACEDONIA																		
Hellenic Petroleum SA—Skopje	50,000	—	—	—	—	¹ 10,860	—	¹ 15,930	—	—	—	³ 4,390	—	—	—	—	—	—
								⁵ 6,120										
Total	50,000	—	—	—	—	10,860	—	22,050	—	—	—	4,390	—	—	—	—	—	—
MALAYSIA																		
Esso Malaysia Bhd.—Port Dickson	86,000	—	—	—	—	¹ 19,000	—	¹ 25,500	—	—	—	—	—	—	—	—	—	—
								⁴ 12,000										
Petronas—Kertih, Terengganu	40,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Petronas—Melaka I	92,832	—	—	—	—	³ 23,500	—	² 23,357	—	—	—	—	—	—	^a ¹ 12.0	975	200	—
								⁴ 19,016							⁴ 61.6			
Petronas—Melaka II	126,000	68,000	² 24,000	—	—	³ 27,500	² 36,000	² 39,227	—	—	—	³ 10,800	—	—	¹ 12.0	1,270	260	4,000
								⁴ 18,000							⁴ 61.6			
								⁵ 40,500										
Sarawak Shell Bhd.—Lutong	45,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Shell Refining Co. Bhd.—Port Dickson	125,000	8,000	—	—	² 42,700	¹ 2,900	—	¹ 26,600	—	—	—	—	—	—	—	—	—	4,000
						³ 13,170		⁴ 10,100										
Total	514,832	76,000	24,000	—	42,700	86,070	36,000	214,300	—	—	—	10,800	—	—	147.2	2,245	460	8,000
MARTINIQUE																		
Societe Anonyme de la Raffinerie des AntillesFort-de-France	17,000	—	—	—	—	⁴ 3,019	—	¹ 5,176	—	—	—	—	—	—	—	—	15	—
								⁸ 9,977										
Total	17,000	—	—	—	—	3,019	—	14,153	—	—	—	—	—	—	—	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
MEXICO																		
Petroleos Mexicanos—Cadereyta	275,000	123,900	—	—	¹ 90,000	¹ 46,000	—	186,500	23,000	—	—	—	—	600	60.0	—	—	5,000
Petroleos Mexicanos—Cd. Madero	190,000	101,100	—	—	¹ 60,500	¹ 30,000	—	141,700	² 22,100	—	—	—	—	2,000	42.0	—	—	18,000
Petroleos Mexicanos—Minatitlan	185,000	77,000	—	—	¹ 30,000	¹ 49,000	—	97,000	15,000	—	¹ 17,000	—	—	—	—	—	—	—
Petroleos Mexicanos—Salamanca	245,000	143,000	—	—	¹ 40,000	¹ 39,300	² 18,500	116,500	17,434	—	—	—	16,600	880	48.0	—	—	15,000
Petroleos Mexicanos—Salina Cruz	330,000	165,000	50,000	—	¹ 80,000	³ 50,000	—	165,000	27,745	—	—	—	—	1,800	—	—	—	—
Petroleos Mexicanos—Tula Hidalgo	315,000	144,000	¹ 41,000	—	¹ 80,000	¹ 65,000	—	219,350	25,177	—	—	—	—	3,600	75.0	—	—	15,000
Total	1,540,000	754,000	91,000	—	380,500	279,300	18,500	926,050	130,456	—	17,000	—	16,600	8,880	225.0	—	—	53,000

MOROCCO

Societe Anonyme Marocaine de L'Industrie du Raffinage— Mohammedia	125,230	17,465	—	—	—	¹ 21,830	—	¹ 21,830	—	—	—	—	2,460	—	—	—	—	5,630
								⁷ 8,670										
								¹ 2,510										
Societe Anonyme Marocaine de L'Industrie du Raffinage*— Sidi Kacem	29,671	7,456	—	—	² 5,040	¹ 2,529	—	¹ 2,529	—	—	—	—	—	—	—	—	—	—
Total	154,901	24,921	—	—	5,040	24,359	—	35,539	—	—	—	—	2,460	—	—	—	—	5,630

MYANMAR

Myanma Petrochemical Enterprise—Chauk	6,000	2,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Myanma Petrochemical Enterprise—Thanlyin	26,000	2,000	² 5,200	—	—	—	—	—	—	—	—	—	500	—	—	120	—	—
Myanma Petrochemical Enterprise—Thanbayakan	25,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	57,000	4,000	5,200	—	—	—	—	—	—	—	—	—	500	—	—	120	—	—

NETHERLANDS

BP PLC*—Rotterdam ^B	392,000	85,300	58,900	² 36,700	—	¹ 30,200	—	¹ 36,000	—	8,800	—	—	—	¹ 2,640	⁴ 14.0	—	140	—
								² 24,150										
								⁴ 168,400										
								⁵ 85,100										
								⁶ 13,600										
								¹³ 10,400										
ExxonMobil Refining & Supply Co.—Rotterdam	191,000	80,000	³ 41,000	—	—	² 33,000	^c ¹ 51,000	¹ 33,000	—	—	¹ 32,000	—	—	—	¹ 24.0	—	505	—
								² 12,000			³ 6,000				⁴ 62.0			
								⁴ 35,000										
								⁵ 38,000										
								⁹ 21,000										
Kuwait Petroleum Europoort BV—Rotterdam	81,300	39,200	—	¹ 9,200	—	³ 21,700	—	¹ 41,200	—	—	—	³ 9,100	4,500	—	⁴ 2.0	—	71.6	5,200
				² 6,800				⁴ 10,800										
								⁵ 24,700										
								¹¹ 5,900										

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Shell Nederland Raffinaderij BV—Pernis	406,000	440,000	—	² 45,000	¹ 49,000	³ 41,400	¹ 56,300	¹ 106,000	² 7,300	—	—	—	7,100	—	¹ 52.3	—	700	5,500
							² 25,400	⁴ 28,700 ⁵ 50,000 ⁷ 33,500 ¹¹ 220 ¹² 9,250							³ 108.3			
Smid & Hollander Raffinaderij BV—Amsterdam	10,000	8,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5,800
Total SA—Vlissingen	146,586	86,322	—	—	—	³ 26,473	¹ 59,405	¹ 22,181	—	—	¹ 30,468	—	—	—	¹ 72.0	—	225	—
								⁵ 42,184										
Total	1,226,886	738,822	99,900	97,700	49,000	152,773	192,105	851,285	7,300	8,800	68,468	9,100	11,600	2,640	334.6	—	1,642	16,500

NETHERLANDS ANTILLES

Refineria Isla Curazao SA—Emmastad	320,000	195,000	—	¹ 80,000	¹ 50,000	¹ 20,000	—	¹ 53,000	² 9,000	¹ 2,000	—	—	12,000	—	² 20.8	—	300	26,000
								⁵ 37,000 ⁸ 26,000 ¹¹ 3,500							⁴ 33.8			
Total	320,000	195,000	—	80,000	50,000	20,000	—	119,500	9,000	2,000	—	—	12,000	—	54.6	—	300	26,000

NEW ZEALAND

New Zealand Refining Co. Ltd. *— Marsden Point, Northland	107,000	38,270	—	—	—	¹ 25,840	^c ¹ 30,000	¹ 48,980	—	—	—	—	—	—	¹ 60.0	—	111	5,490
								⁴ 5,510 ⁵ 50,000										
Total	107,000	38,270	—	—	—	25,840	30,000	104,490	—	—	—	—	—	—	—	—	—	—

NICARAGUA

ExxonMobil Refining & Supply— Managua	20,000	1,500	—	—	—	¹ 2,900	—	¹ 5,500	—	—	—	—	—	—	—	—	—	—
								⁴ 4,000 ⁷ 5,000										
Total	20,000	1,500	—	—	—	2,900	—	14,500	—	—	—	—	—	—	—	—	—	—

NIGERIA

Kaduna Refinery & Petrochemical Co. (NNPC)—Kaduna	110,000	36,290	—	—	¹ 18,000	¹ 15,300	—	¹ 21,600	—	—	² 291	—	3,878	—	—	—	—	14,850
								15,750 ¹³ 536										
Port Harcourt Refining Co. (NNPC)—Port Harcourt, Alesa Eleme	120,000	—	—	—	—	¹ 6,000	—	—	—	—	—	—	—	—	—	—	—	—
Port Harcourt Refining Co. (NNPC)—Port Harcourt, Rivers State	150,000	54,000	—	—	¹ 40,000	⁴ 33,000	—	¹ 33,000	² 7,020	² 2,274	—	¹ 3,610	—	—	—	—	—	—
								⁷ 14,500										
Warri Refinery & Petrochemical Co. (NNPC)—Warri	125,000	34,200	—	—	¹ 24,700	¹ 15,770	—	² 15,770	² 2,850	—	—	—	—	—	—	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Total	505,000	124,490	—	—	82,700	70,070	—	⁶ 8,075 109,231	9,870	2,274	291	3,610	3,878	—	—	—	—	14,850
NORTH KOREA																		
Government	29,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Government—Ungi	42,000	—	—	—	—	¹ 7,300	—	¹ 7,400	—	—	¹ 1,000	—	—	¹ 1,000	—	—	—	—
Total	71,000	—	—	—	—	7,300	—	7,400	—	—	1,000	—	—	1,000	—	—	—	—
NORWAY																		
ExxonMobil Refining & Supply Co.—Slagen	116,000	—	—	² 32,000	—	¹ 12,000	—	¹ 22,000	—	—	—	—	—	—	—	—	23	—
								⁵ 36,000 ⁷ 12,000										
Mongstad Refining—Mongstad ^E	199,000	—	² 24,780	—	² 49,000	¹ 9,400 ³ 15,000	—	¹ 26,000 ⁵ 10,000 ⁹ 18,000	—	¹ 11,000	—	³ 3,840	—	—	—	610	—	—
Total	315,000	—	24,780	32,000	49,000	36,400	—	124,000	—	11,000	—	3,840	—	—	—	610	23	—
OMAN																		
Oman Refinery Co.—Mina Al Fahal	85,000	—	—	—	—	³ 16,000	—	² 21,000	—	—	—	—	—	—	—	—	—	—
Total	85,000	—	—	—	—	16,000	—	21,000	—	—	—	—	—	—	—	—	—	—
PAKISTAN																		
Attock Refinery Ltd.*—Rawalpindi	35,625	5,415	—	—	—	¹ 4,500	—	¹ 5,850	—	—	—	—	—	—	—	—	—	—
Bosicor Refinery Ltd.—Karachi	30,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
National Refinery Ltd.—Korangi, Karachi	62,050	14,400	—	—	—	¹ 3,800	—	¹ 3,900	—	—	¹ 1,400	—	3,800	—	—	—	—	4,200
								⁴ 10,000 ¹ 18,160 ⁴ 6,960 ⁵ 10,000										
Pakistan Refinery Ltd.—Karachi	44,000	—	—	—	—	¹ 3,350	—	¹ 8,160	—	—	—	—	—	—	—	—	—	—
Pak-Arab Refinery Co.—Mahmood Kot, Punjab	95,000	40,660	—	14,004	—	14,715	20,205	⁴ 23,085	—	—	—	—	—	—	—	—	115	—
Total	266,675	60,475	—	14,004	—	26,365	20,205	77,955	—	—	1,400	—	3,800	—	—	—	115	4,200
PAPUA NEW GUINEA																		
Interoil—Port Moresby	32,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	32,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PARAGUAY																		
Petroleos Paraguayos—Villa Elisa	7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	7,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PERU																		
Maple Gas Corp.—Pucallpa	3,250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Petroperu SA—Conchan, Lima	13,500	9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Petroperu SA—Iquitos, Loreto	10,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Petroperu SA—El Milagro, Amazonas	1,700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Petroperu SA—Talara, Piura	62,000	24,500	—	—	¹ 18,000	—	—	—	—	—	—	—	—	—	—	—	—	—
Repsol YPF SA—La Pampilla Lima	102,000	60,000	—	² 25,700	¹ 14,000	¹ 2,100	—	¹ 2,800	—	—	—	—	—	—	—	—	—	3,800
Total	192,950	94,000	—	25,700	32,000	2,100	—	2,800	—	—	—	—	—	—	—	—	—	3,800
PHILIPPINES																		
Petron Corp.—Limay, Bataan	180,000	40,000	—	—	¹ 19,000	¹ 14,000	—	¹ 54,000	—	—	—	³ 10,000	—	—	37.0	—	70	—
						³ 17,000		⁵ 40,000										
Philippine Petroleum Corp.—Pililla	—	21,000	—	—	—	—	—	—	—	—	—	—	3,700	—	—	—	—	1,200
Pilipinas Shell Petroleum Corp.— Tabango	102,000	—	—	¹ 22,000	—	¹ 20,000	—	¹ 34,000	—	—	—	—	—	—	—	—	—	—
				² 11,000				⁵ 56,990										
Total	282,000	61,000	—	33,000	19,000	51,000	—	184,990	—	—	—	10,000	3,700	—	37.0	—	70	1,200
POLAND																		
Grupa Lotos SA—Gdansk	120,000	60,000	—	—	—	¹ 10,000	^c ¹ 32,000	¹ 18,000	—	—	—	³ 10,000	9,000	—	—	—	—	18,000
						³ 15,000		² 10,000										
								⁵ 20,000										
								¹¹ 7,000										
Nafta Polska SA—Gorlice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nafta Polska SA—Jaslo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PKN Orlen SA—Plock/Trezebina	372,950	205,123	—	—	¹ 32,985	¹ 7,330	¹ 74,326	¹ 101,740	² 3,372	—	¹ 10,262	² 13,194	8,796	² 2,514	¹ 93.6	—	560	15,371
						³ 35,184	² 39,582	⁵ 102,767							⁴ 73.6			
Total	492,950	265,123	—	—	32,985	67,514	145,908	259,507	3,372	—	10,262	23,194	17,796	2,514	167	—	560	33,371
PORTUGAL																		
Galp Energia*—Leca da Palmeira, Porto	91,277	11,357	—	—	—	¹ 14,831	—	¹ 42,221	—	—	¹ 17,276	—	—	—	⁴ 30.5	—	45	—
						³ 10,601		⁵ 28,823										
								¹¹ 3,593										
Galp Energia*—Sines	212,895	71,393	—	² 23,400	¹ 40,500	³ 24,750	^m ⁴ 9,180	¹ 24,750	² 5,400	—	—	—	—	—	² 30.0	—	207	—
								⁵ 62,100							⁴ 24.8			
								⁸ 13,500										
								¹² 24,300										
Total	304,172	82,750	—	23,400	40,500	50,182	9,180	199,287	5,400	—	17,276	—	—	—	85.3	—	252	—
PUERTO RICO																		
Shell Chemical Yabucoa Inc.— Yabucoa	73,000	34,000	—	—	—	¹ 21,000	^c ⁴ 20,000	¹ 21,000	—	—	—	—	—	—	¹ 20.0	—	34	—
Total	73,000	34,000	—	—	—	21,000	20,000	21,000	—	—	—	—	—	—	20.0	—	34	—
QATAR																		
National Oil Distribution Co.— Umm Said	200,000	—	—	—	¹ 60,000	¹ 20,000	20,000	² 19,500	—	—	—	³ 25,000	—	—	—	—	—	—
						³ 9,400		⁷ 19,850										
Total	200,000	—	—	—	60,000	29,400	20,000	39,350	—	—	—	25,000	—	—	—	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
ROMANIA																		
Arpechim SA—Pitesti	70,288	37,589	—	² 11,277	² 19,178	¹ 12,233	^c ³ 1,534	¹ 11,507 19,178	—	—	¹ 1,591	—	752	—	¹ 1.5	—	22	3,320
Astra SA—Ploiesti	56,000	9,400	² 8,600	—	—	—	—	3,000	—	—	—	—	6,300	—	¹ 2.1	220	—	1,500
Petrobraz SA—Ploiesti	69,280	39,240	² 12,660	—	¹ 21,400	¹ 13,440	—	¹ 13,920 ⁷ 5,540	—	—	¹ 1,510	³ 995	—	—	—	400	—	—
Petrolsub SA—Bacau	8,000	5,200	—	—	—	—	—	—	—	—	—	—	210	—	—	—	—	2,870
Petromidia SA—Midia	105,000	46,000	² 20,000	—	¹ 24,000	¹ 11,600	—	¹ 28,000 7,500 ⁸ 15,000 ¹³ 22,500	—	—	¹ 4,700	—	—	¹ 820	¹ 6.1	1,150	87	—
Petrotel SA—Ploiesti	104,000	55,970	² 11,480	² 5,500	¹ 20,900	¹ 11,490	—	¹ 20,000 ⁷ 20,680 ¹¹ 3,200	² 2,300	—	—	—	2,680	¹ 510	² 4.3	270	—	3,670
Rafinaria Darmanesti SA—Darmanesti	16,000	—	¹ 9,500	¹ 8,800	—	² 3,000	—	—	—	—	—	—	—	—	—	300	—	—
Rafo SA—Onesti, Bacau	70,000	70,000	¹ 6,000	² 12,000	¹ 24,000	³ 10,000	—	¹ 16,000 ⁴ 6,800 ⁵ 14,000 ⁷ 6,800 ⁸ 24,000	—	—	—	³ 2,851	—	—	¹ 4.0	215	34	—
Rompetrol SA Vega Refinery— Ploiesti	8,717	3,485	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,291
Steaua Romania SA—Cimpina	⁹ 2,272	⁶ 341	—	—	—	—	—	—	—	—	—	—	⁴ 24	—	—	—	—	¹ 110
Total	516,557	273,225	68,240	37,577	109,478	61,763	1,534	237,625	2,300	—	7,801	3,846	10,366	1,330	18.0	2,555	143	13,761
RUSSIA																		
Alyans GroupKhabarovsk ^L	94,000	10,149	—	14,284	—	¹ 9,786	—	¹ 10,556	—	—	—	—	—	—	—	—	—	5,811
Bashneftekhimzavody—Novo-Ufa	285,000	93,800	² 7,142	² 51,700	² 22,247	³ 25,400	—	¹ 52,000 ¹ 22,300 65,205	¹ 2,814	—	—	—	9,585	—	—	260	218	14,278
Bashneftekhimzavody—Ufa	234,962	98,671	—	¹ 30,900	² 38,356	¹ 14,679	—	¹ 15,000 33,300 ⁸ 42,192	—	¹ 979	—	—	—	—	¹ 21.5	—	72	498
Bashneftekhimzavody— Ufaneftekhim	184,200	62,000	—	¹ 23,700	² 17,260	¹ 8,900	¹ 19,178	¹ 31,600	—	—	¹ 8,700	—	7,330	—	¹ 21.5	—	—	4,981
Central Fuel Co.—Moscow	242,995	90,214	—	¹ 20,000	² 31,320	¹ 33,029	—	¹ 34,000 66,548 ⁸ 42,192	—	—	—	³ 3,542	—	¹ 1,000	¹ 21.5	—	—	22,600
Chernogorneft Refinery— Chernogorneft	2,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dagestan Oil—Makhachkala	4,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gazprom—Salavat ^N	168,300	73,299	—	² 9,397	² 10,225	¹ 30,160	—	² 30,400	¹ 1,174	—	¹ 1,591	—	—	² 3,000	—	—	290	—
	—	—	—	—	—	—	—	42,000	—	—	—	—	—	—	—	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
GazpromNefte—Omsk ^M	286,160	195,000	¹ 12,100	² 26,500 30,071	¹ 65,589	¹ 42,400 ³ 24,710	19,178	¹ 67,100 43,000 ⁸ 42,192 ¹¹ 6,904	¹ 1,272	—	¹¹ 1,139	—	3,800	¹ 1,750	—	510	—	17,433
GazpromNefte/TNK-BP—Yaroslav/ Mendelejev ^O	8,700	—	—	—	—	—	—	—	—	—	—	—	5,300	—	—	—	—	—
Krasnodareneft—Krasno	34,140	14,472	—	¹ 10,149	—	—	—	⁵ 25,000	—	—	—	—	—	—	—	—	—	5,645
Lukoil—Kogalym	10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lukoil—Kstovo, Nizhny Novgorod	359,200	74,600	—	—	—	¹ 45,506	—	¹ 46,800 107,500 ¹¹ 6,904	—	—	¹ 1,790 ² 1,890	—	7,020	—	—	—	—	15,607
Lukoil—Perm	279,142	126,000	² 8,230	² 9,115	¹¹ 5,726	¹ 35,496	—	¹ 36,000 ⁵ 84,200	¹ 1,003	—	¹ 1,840	² 5,000	8,833	—	—	490	—	5,645
Lukoil—Ukhta	126,518	13,156	—	¹ 7,518	—	¹ 9,297	⁴ 18,700	¹ 9,500	—	—	—	—	—	—	—	—	—	4,981
Lukoil—Volgograd	200,000	79,501	¹ 8,230 ³ 3,101	² 9,115	—	¹ 18,839	—	¹ 19,100 ⁵ 40,500 ¹¹ 6,904	—	—	¹ 1,830	—	13,065	—	⁷ 10.8	1,020	—	3,985
Mari El Refinery—Mari Republic	2,000	—	—	—	—	—	—	⁵ 26,000	—	—	—	—	—	—	—	—	—	—
Rosneft—Achinsk ^J	130,534	40,184	—	—	—	¹ 25,519	—	¹ 25,519 59,679	—	—	—	—	—	—	—	—	21	11,600
Rosneft—Angarsk ^J	385,176	195,463	¹¹ 1,217	² 25,748	¹ 33,753	¹ 51,040	—	¹ 51,300 30,685 ¹¹ 6,900	—	—	¹ 4,900	—	5,638	—	—	410	—	8,500
Rosneft—Komsomolsk	140,575	137,161	³ 9,679	² 11,300	—	8,100	—	19,000	—	—	—	2,700	—	—	—	—	—	—
Rosneft—Novo-Kuibishev ^J	191,986	73,000	¹ 25,300	—	¹¹ 7,266	¹ 33,518	—	¹ 34,300 64,000	—	—	¹ 2,188	—	3,705	—	—	1,030	—	12,286
Rosneft—Samara-Kuibishev ^J	140,575	40,700	—	¹¹ 5,787	² 13,788	¹ 43,794	—	¹ 44,400 57,120	¹ 832	¹ 750	—	—	—	—	—	—	—	—
Rosneft—Strezhevoy ^J	4,016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rosneft—Syzran ^J	214,076	48,800	—	¹ 16,915	² 17,068	¹ 38,550	—	¹ 37,900 78,822	—	—	¹ 1,760	—	—	—	—	—	—	7,637
Rosneft—Tarasovskoye	2,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rosneft—Tuapse	84,345	—	—	—	—	¹ 7,829	—	¹ 8,100	—	—	—	—	—	—	—	—	—	—
Sidanco—Cracking-Saratov	134,387	65,780	—	—	—	² 23,487	—	¹ 33,562	—	—	—	—	—	—	—	—	30	3,868
Slavneft—Yanos	290,000	270,305	—	² 12,404	¹ 30,000	¹ 25,689	—	¹ 26,100 56,959 ¹¹ 12,274	¹ 1,786	—	¹ 1,551	³ 3,542	5,460	¹ 800	—	—	—	10,460
Surgutneftegaz—Kirishi	335,900	85,327	—	—	—	¹ 56,840	—	¹ 67,900 104,800	—	—	¹ 5,172	³ 7,085	—	—	—	—	45	16,603
Tatneft—Kichuyi	8,000	3,600	—	—	—	¹ 1,750	—	¹ 1,850	—	—	—	—	—	—	—	—	—	1,200
Tatneft—Nizhnekamsk, Tartarstan	120,493	—	—	² 36,000	—	—	—	⁵ 46,000	—	—	—	—	—	¹ 625	¹ 18.0	—	50	18,000
TNK-BP—Krasnoleninsk	6,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TNK-BP—Nizhnevartovsk	84,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TNK-BP Orsk, Orenburg	130,000	53,752	—	—	—	¹ 17,860	—	¹ 18,400	¹ 1,125	—	—	—	7,706	—	—	—	—	10,128

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd								Sulfur (t/d)	Asphalt
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)		
TNK-BP—Ryazan	340,000	83,636	—	¹ 21,990	¹ 18,219	¹ 53,335	—	54,200 ¹ 54,000 76,137 ¹ 16,900	—	—	¹ 4,078 ² 2,228	—	5,400	—	—	—	—	8,799
TNK-BP—Saratov	130,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tomskneft—Tomsk	3,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ulyanovskneft	1,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
United Oil Group—Afipsky ^K	28,115	—	—	—	—	¹ 16,147	—	¹ 12,658	—	—	¹ 3,680	—	—	—	—	—	—	—
Yakutsk Refinery—Yakutsk	2,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	5,428,497	2,028,570	84,999	382,593	330,817	745,735	57,056	2,170,966	10,006	1,729	54,337	21,869	82,842	7,175	93.3	3,720	726	210,545

SAUDI ARABIA

Saudi Arabian Oil Co. (Saudi Aramco)—Rabigh	400,000	—	—	—	—	—	—	47,000	—	—	—	—	—	—	¹ 12.0	—	—	—
Saudi Arabian Oil Co. (Saudi Aramco)—Ras Tanura	550,000	135,000	—	² 60,000	—	¹ 54,000	44,000	¹ 54,000	—	—	—	—	—	—	—	—	—	—
Saudi Arabian Oil Co. (Saudi Aramco)—Jeddah	85,000	34,000	—	—	¹ 13,000	¹ 3,000	³ 10,000	¹ 3,000	—	—	—	—	—	—	—	—	—	—
Saudi Arabian Oil Co. (Saudi Aramco)—Riyadh	120,000	52,350	—	—	—	¹ 35,660	¹ 33,820	¹ 35,660	—	—	—	—	—	—	¹ 80.7	—	—	—
Saudi Arabian Oil Co. (Saudi Aramco)—Yanbu	235,000	—	—	—	—	¹ 35,000	—	⁷ 14,500 ¹ 35,000	—	—	—	—	—	—	—	—	—	—
Saudi Aramco Shell Refinery Co.—Al-Jubail	290,000	82,200	—	² 32,100	—	³ 18,800	¹ 46,000	¹ 20,000 ⁴ 54,000 ⁹ 48,400	8,000	—	¹ 6,500	—	—	1,500	¹ 98.0	—	—	—
Saudi Aramco-Mobil—Yanbu	400,000	142,400	—	² 46,100	¹ 90,600	² 46,700	—	¹ 73,500 ⁷ 93,400	² 23,500	—	—	¹ 12,600 ³ 20,400	—	¹ 2,200	—	—	—	—
Total	2,080,000	445,950	—	138,200	103,600	193,160	133,820	493,460	31,500	—	6,500	33,000	—	3,700	190.7	—	—	—

SENEGAL

Ste. Africaine de Raffinage M'Bao (Dakar)	25,030	7,160	—	—	—	¹ 1,590	—	1,930	—	—	—	—	—	—	—	—	—	—
Total	25,030	7,160	—	—	—	1,590	—	1,930	—	—	—	—	—	—	—	—	—	—

SERBIA AND MONTENEGRO

NIS-Oil Refinery Novi Sad— Novi Sad	116,826	10,483	—	—	—	¹ 10,902	—	¹ 14,300 ⁵ 5,200 ¹ 14,900 ¹ 14,600	—	—	—	—	300	—	¹ 0.5	—	—	2,400
NIS-Rafinerija Nafta Pancevo— Pancevo	98,000	40,100	—	² 20,340	¹ 18,950	¹ 7,920	—	¹ 8,070	¹ 3,070	—	¹ 200	—	—	—	—	—	59	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd								Sulfur (t/d)	Asphalt
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)		
								⁴ 4,620										
								⁵ 9,220										
Total	214,826	50,583	—	20,340	18,950	18,822	—	50,910	3,070	—	200	—	300	—	0.5	—	59	2,400
SIERRA LEONE																		
Sierra Leone Petroleum Refining Co. Ltd.—Freetown	10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SINGAPORE																		
ExxonMobil Refining & Supply Co.—Jurong/Pulau Ayer Chawan	605,000	166,000	—	² 115,500	—	¹ 21,500	^m ¹ 33,500	¹ 145,000	—	—	¹ 46,000	—	35,000	—	¹ 26.0	—	437	15,000
						³ 57,000		⁴ 44,000							⁴ 70.0			
								⁵ 115,000										
Shell Eastern Petroleum (Pte.) Ltd.—Pulau Bukom	449,000	85,000	—	¹ 33,000	² 34,000	¹ 6,970	¹ 34,860	¹ 135,000	² 4,000	—	—	—	8,000	—	¹ 41.0	—	—	15,000
				² 32,710		³ 33,000		² 62,000										
								⁹ 78,000										
Singapore Refining Co. Private Ltd.—Pulau Merlimau ^D	290,000	92,700	—	² 32,000	² 46,000	² 14,500	⁴ 33,500	¹ 14,500	¹ 5,000	² 4,800	—	—	—	¹ 1,400	² 37.0	—	244	8,500
								⁹ 85,000							⁴ 9.2			
															⁵ 12.5			
															⁶ 8.0			
Total	1,344,000	343,700	—	213,210	80,000	132,970	101,860	678,500	9,000	4,800	46,000	—	43,000	1,400	203.7	—	681	38,500
SLOVAKIA																		
Slovnaft Joint Stock Co.—Bratislava	115,000	55,000	—	—	¹ 18,000	³ 21,000	^c ¹ 19,000	¹ 16,000	¹ 4,500	—	¹ 8,000	³ 6,000	2,000	¹ 1,500	¹ 57.1	—	270	2,600
							^c ² 23,000	² 6,000			⁴ 1,250				⁴ 24.3			
								³ 3,400							⁵ 8.2			
								⁴ 9,300										
								⁵ 29,000										
								⁸ 22,000										
								¹³ 2,100										
Total	115,000	55,000	—	—	18,000	21,000	42,000	87,800	4,500	—	9,250	6,000	2,000	1,500	89.6	—	270	2,600
SLOVENIA																		
Nafta Lendava—Lendava	¹³ 500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	13,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SOUTH AFRICA																		
Caltex Oil SA—Cape Town	110,000	51,200	—	² 11,000	¹ 22,300	¹ 15,000	—	² 24,000	—	¹ 4,000	—	² 5,500	—	—	—	—	82	—
								⁵ 18,000										
								⁷ 6,000										
Engen Petroleum Ltd.—Durban	118,750	43,700	—	² 20,385	¹ 20,385	¹ 21,001	—	¹ 28,800	² 1,980	¹ 1,800	—	¹ 1,710	3,451	—	⁴ 13.6	—	120	3,960
								⁴ 13,950				³ 855						
								⁵ 31,500										
National Petroleum Refiners of South Africa Pty Ltd.—Sasolburg	87,547	34,475	—	—	¹ 25,660	¹ 14,642	^c ¹ 11,774	² 12,830	² 3,295	—	—	¹ 3,623	—	—	¹ 29.1	—	120	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Shell and BP PLC Petroleum Refineries Pty. Ltd.—Durban	169,000	70,400	² 26,800	² 27,000	¹ 35,680	¹ 26,500	—	⁷ 11,562 ⁴ 16,000 ⁵ 10,000	² 4,000	—	—	—	8,000	—	⁶ 6.1 —	240	300	4,000
Total	485,297	199,775	26,800	58,385	104,025	77,143	11,774	222,642	9,275	5,800	—	11,688	11,451	—	48.8	240	622	7,960

SOUTH KOREA

Hyundai Lube Oil—Busan	9,500	6,650	—	—	—	—	—	² 1,800 ¹¹ 1,080	—	—	—	—	1,800	—	² 0.4	—	—	3,600
Hyundai Oil Refinery Co.—Daesan	310,000	41,000	² 19,000	—	—	³ 20,000	¹ 22,000	² 27,000 12,000	—	—	—	—	1,000	—	² 54.0	1,200	180	3,727
Hyundai Oil Refinery Co.—Inchon	270,000	18,000	—	—	—	¹ 5,400 ³ 22,500	—	² 27,900 86,850	—	—	¹ 13,000	—	—	—	—	—	126	—
LG-Caltex—Yosu	650,000	11,000	—	—	¹ 82,000	¹ 17,000 ³ 58,400	—	¹ 64,400 ² 27,000 ⁴ 36,000 ⁵ 180,000 ¹² 30,000	—	—	¹ 40,000	—	3,000	³ 2,500	—	—	—	5,400
S-Oil Corp.—Onsan	520,000	160,000	—	—	¹ 60,000	³ 43,000	^c ² 60,000 ^c ³ 11,000	¹ 44,000 ² 12,000 ⁴ 21,000 ⁵ 85,000 ⁸ 40,000 ¹⁰ 50,000 ¹² 6,000	—	—	¹ 20,000	—	9,000	¹ 1,600	² 198.0 ¹ 570	—	900	8,500
SK Corp.—Ulsan	817,000	78,850	—	—	² 45,000	¹ 20,070 ³ 49,500	^c ² 27,000	¹ 71,280 ² 4,500 159,300 54,000 ¹⁰ 27,000	¹ 5,400	—	¹ 27,900 ² 8,055 ³ 3,600	—	3,500	¹ 4,770	¹ 80.0 ² 65.0 ⁴ 199.0	—	1,195	2,970
Total	2,576,500	315,500	19,000	—	187,000	235,870	120,000	1,068,110	5,400	—	112,555	—	18,300	8,870	653.4	1,200	2,401	24,197

SPAIN

BP PLC*—Castellon de la Plana	110,000	47,100	—	—	¹ 30,000	¹ 16,500	—	¹ 34,800 ³ 10,700 ⁴ 22,000 ⁵ 29,000 ⁷ 32,700	² 3,462	—	—	³ 19,000	—	—	¹ 32.0 ⁴ 53.5	—	15	—
Cia. Espanola de Petroles SA—Cadiz	240,000	40,000	—	² 38,000	¹ 40,000	¹ 36,000	—	¹ 35,000 ⁵ 54,000 ⁸ 30,000	² 5,600	—	¹ 11,500	² 5,500	2,300	² 1,300	⁴ 4.8	—	246	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Cia. Espanola de Petroles SA—Huelva	100,000	38,000	—	² 9,000	¹ 19,000	¹ 17,000	17,000	⁵ 30,000 ⁸ 15,000	—	—	¹ 6,100 ² 4,400 ³ 3,800	—	2,600	² 900	¹ 23.7 ⁴ 9.8	—	115	5,500
Cia. Espanola de Petroles SA—Tenerife	87,000	8,000	—	² 35,000	—	¹ 16,000	—	¹ 16,000 ⁴ 15,000 ⁵ 14,000	—	—	—	—	—	—	—	—	45	4,500
Petronor SA—Muskiz Vizcaya	220,000	89,500	—	² 39,600	¹ 43,100	¹ 28,900	⁴ 33,100	¹ 40,500 ⁵ 89,100 ¹² 19,700	² 4,800	—	—	² 2,600	—	² 1,300	¹ 38.7	—	346	4,500
Repsol YPF SA—Cartagena Murcia	100,000	14,500	—	—	—	¹ 26,000	—	¹ 26,000 ⁵ 31,800	—	—	—	¹ 800	2,600	—	⁶ 1.4	—	70	5,200
Repsol YPF SA—La Coruna	120,000	52,000	² 19,000	—	¹ 31,600	¹ 19,700	—	¹ 19,700 ⁵ 43,400 ⁸ 26,800	—	—	—	¹ 1,200	—	² 1,200	^a ¹ 40.3	1,050	251	1,700
Repsol YPF SA—Puertollano, Ciudad Real	140,000	55,500	² 24,100	—	¹ 30,600	¹ 16,300	¹ 34,500	¹ 16,300 ² 3,000 ⁵ 83,100	² 3,400	—	—	¹ 1,900	2,100	² 1,400	^a ¹ 57.1	1,340	381	5,200
Repsol YPF SA—Tarragona	160,000	72,000	—	² 27,600	—	³ 22,000	¹ 46,900	¹ 22,000 ⁵ 67,900	—	—	—	¹ 6,900	—	² 3,500	^a ¹ 65.7 ⁵ 14.1	—	243	—
Total	1,277,000	416,600	43,100	149,200	194,300	198,400	131,500	827,500	17,262	—	25,800	37,900	9,600	9,600	341.1	2,390	1,712	26,600
SRI LANKA																		
Ceylon Petroleum Corp.— Sapugaskanda	50,000	24,000	—	² 12,500	—	¹ 5,300	—	¹ 9,885 ⁵ 9,410	—	—	—	—	—	—	—	—	—	1,000
Total	50,000	24,000	—	12,500	—	5,300	—	19,295	—	—	—	—	—	—	—	—	—	1,000
SUDAN																		
China National Petroleum Corp.—El-Gily	50,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Concorp—Khartoum	50,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Port Sudan Refinery Ltd.—Port Sudan	21,700	—	—	—	—	¹ 1,900	—	8,100	—	—	—	—	—	—	—	—	—	—
Total	121,700	—	—	—	—	1,900	—	8,100	—	—	—	—	—	—	—	—	—	—
SURINAME																		
Staatsolie Maatschappij Suriname n.v.—Wanica District	7,000	7,000	—	² 2,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	7,000	7,000	—	2,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—
SWEDEN																		
AB Nynas Petroleum—Gothenburg	13,000	13,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,700
AB Nynas Petroleum—Nynashamn	28,000	28,000	—	—	—	—	—	⁶ 9,400	—	—	—	—	—	—	⁴ 8.1	—	22	18,760
Preem Raffinaderi AB—Brofjorden- Lysekil	210,000	64,600	—	² 37,800	¹ 29,700	³ 32,400	⁴ 48,600	² 48,600	—	¹ 3,420	—	³ 14,400	—	—	⁶ 9.7	—	200	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd								Sulfur (t/d)	Asphalt
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)		
Preem Raffinaderi AB—Gothenburg	106,000	—	—	—	—	¹ 20,500	—	³ 45,900 ¹ 46,000 ³ 14,000 37,000 6,500	—	—	—	³ 10,000	—	—	⁵ 36.0	—	112	—
	80,000	30,000	—	¹ 29,000	—	¹ 17,760	—	¹ 28,140 ⁴ 5,000 ⁹ 28,000	—	—	—	³ 4,130	—	—	—	—	—	—
Total	437,000	135,600	—	66,800	29,700	70,660	48,600	268,540	—	3,420	—	28,530	—	—	53.8	—	334	27,460
SWITZERLAND																		
Petroplus Holdings AG—Cressier	60,000	24,000	—	¹ 11,000 ² 9,000	—	¹ 16,000	—	¹ 27,000 8,000 27,000	—	—	—	³ 6,600	—	—	—	—	—	5,200
Tamoil SA—Collombey	72,000	—	—	—	20,400	¹ 12,000	—	¹ 18,900 ⁹ 7,600 ¹² 6,700	—	¹ 3,800	—	³ 6,400	—	—	⁴ 24.0 ⁶ 4.0	—	—	—
Total	132,000	24,000	—	20,000	20,400	28,000	—	95,200	—	3,800	—	10,000	—	—	28.0	—	—	5,200
SYRIA																		
Banias Refining Co.—Banias	132,725	50,935	—	² 22,689	—	³ 21,430	⁴ 26,410	¹ 21,480 ⁵ 16,070	—	—	—	³ 8,583	—	—	27.0	—	120	2,223
Homs Refinery Co.—Homs	107,140	12,200	² 18,200	—	—	³ 9,812	—	¹ 12,665 ⁴ 5,987 ⁵ 21,634 ⁹ 3,050	—	—	—	¹ 2,910	—	—	—	500	30	—
Total	239,865	63,135	18,200	22,689	—	31,242	26,410	80,886	—	—	—	11,493	—	—	27.0	500	150	2,223
TANZANIA																		
Tanzanian & Italian Petroleum Refining Co. Ltd.—Kigamboni Dar es Salaam	14,900	—	—	¹ 2,500	—	² 2,500	—	² 4,400	—	—	—	—	—	—	—	—	—	—
Total	14,900	—	—	2,500	—	2,500	—	4,400	—	—	—	—	—	—	—	—	—	—
THAILAND																		
Alliance Refining Co. Ltd.—Map Ta Phut, Rayong	301,000	128,430	—	² 22,450	¹ 40,760	³ 45,680	¹ 52,780	² 71,070 ⁵ 135,290 ⁹ 34,700	—	—	—	—	—	—	¹ 44.5 ⁴ 44.7	—	421	—
Esso Standard Thailand Ltd.—Sriracha	173,500	46,000	—	—	¹ 41,500	³ 26,500	—	¹ 45,500 ⁴ 25,000 ⁵ 73,500	—	—	¹ 9,500	—	—	—	—	—	160	2,500
PTT PLC—Bangchak Bangkok	61,750	—	—	—	—	¹ 9,450	—	¹ 4,950 ² 5,850 ¹³ 16,200	—	—	—	—	—	—	¹ 4.7	—	—	—
Thai Oil Co. Ltd.—Sriracha	192,850	93,100	—	² 16,983	¹ 9,230	¹ 20,464	⁶ 118,460	¹ 17,213	—	—	—	¹ 19,596	—	—	¹ 28.8	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
						² 23,496	^c ² 24,613	² 12,795										
								³ 36,360										
								⁵ 33,696										
								⁶ 33,696										
Total	729,100	267,530	—	39,433	91,490	125,590	95,853	545,820	—	—	9,500	19,596	—	—	122.7	—	581	2,500
TRINIDAD AND TOBAGO																		
Petroleum Co. of Trinidad and Tobago Ltd.—Pointe-a-Pierre	168,000	119,200	—	² 24,000	¹ 24,000	¹ 18,000	¹ 45,000	¹ 21,000	¹ 1,200	¹ 1,580	—	—	—	¹ 1,000	¹ 30.0	—	100	—
								^{4,5} 20,000										
Total	168,000	119,200	—	24,000	24,000	18,000	45,000	41,000	1,200	1,580	—	—	—	1,000	30.0	—	100	—
TUNISIA																		
Ste. Tunisienne Industries des Raffinage—Bizerte	34,000	—	—	—	—	3,300	—	—	—	—	—	—	—	—	—	—	—	—
Total	34,000	—	—	—	—	3,300	—	—	—	—	—	—	—	—	—	—	—	—
TURKEY																		
Anadolu Tasfiyehanesi AS*—Mersin	95,000	—	—	—	—	¹ 13,500	—	¹ 21,600	—	—	—	—	—	—	—	—	—	—
								10,800										
Ersan Petrol Sanayii AS—Narlı, Kahramanmaraş	6,000	4,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,000
Turkish Petroleum Refineries Corp.—Aliaga-Izmir	226,440	75,490	—	² 18,870	¹ 15,095	¹ 9,810	^c ¹ 16,360	¹ 11,320	—	—	—	—	5,870	—	² 34.4	—	98	472
								² 11,320							⁴ 88.5			
								³ 9,055										
								⁴ 11,320										
								⁷ 6,790										
								¹ 7,250										
Turkish Petroleum Refineries Corp.—Batman, Siirt	22,015	2,140	—	¹ 4,720	—	¹ 1,302	—	¹ 1,302	—	—	—	—	—	—	—	—	—	2,139
Turkish Petroleum Refineries Corp.—Izmit	251,600	89,947	—	—	¹ 13,840	¹ 6,920	¹ 22,960	¹ 20,760	—	—	—	³ 5,030	—	—	¹ 50.7	180	137	9,435
						³ 14,000		² 10,065										
								³ 3,150										
								⁴ 27,050										
								⁷ 6,290										
								⁸ 39,000										
								¹ 27,675										
								¹³ 5,032										
Turkish Petroleum Refineries Corp.—Kırıkkale	113,220	30,190	—	—	—	¹ 20,130	^c ¹ 14,500	¹ 20,130	—	—	—	³ 9,025	—	—	² 22.1	—	80	5,170
								⁵ 15,096							⁴ 21.8			
Total	714,275	201,767	—	23,590	28,935	65,662	53,820	265,005	—	—	—	14,055	5,870	—	217.5	180	315	20,216

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd								Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates						
TURKMENISTAN																				
Ministry of Oil & Gas—Chardzou	120,493	50,745	—	—	—	¹ 24,466	—	¹ 24,900	—	—	—	—	—	—	—	—	—	—		
Turkmenneftgas—Turkmenbashi	116,477	40,900	² 28,568	—	¹ 15,151	¹ 8,074	—	¹ 38,600	¹ 1,028	¹ 1,223	—	—	2,000	—	—	1,040	—	415		
						³ 20,000														
Total	236,970	91,645	28,568	—	15,151	52,540	—	63,500	1,028	1,223	—	—	2,000	—	—	1,040	—	415		
UKRAINE																				
Alliance Oil Co.—Kherson	137,630	43,000	² 12,000	—	—	¹ 16,637	—	¹ 13,041	—	—	—	—	—	—	—	340	—	5,811		
Lukoil—Odessa	78,321	18,795	—	—	—	¹ 10,276	—	¹ 11,500	—	—	—	—	—	—	—	—	—	3,155		
								28,767												
TNK-Ukraina—Lisichansk	175,000	115,600	—	—	¹ 40,500	¹ 56,761	—	¹ 57,500	—	—	² 1,870	—	—	¹ 125	¹ 21.5	—	90	—		
								79,014												
								⁸ 42,192												
Ukraine Oil Co.—Drogobich	78,321	25,185	³ 3,195	¹ 7,330	—	¹ 8,074	—	¹ 8,200	—	—	—	—	—	—	—	115	—	3,819		
Ukrtatnafta—Kremenchug	360,000	119,997	—	—	¹ 29,600	² 44,400	³ 7,200	⁵ 65,999	—	—	¹ 1,594	—	500	—	—	—	86	—		
Ukrtatnafta—Nadvornaja	50,487	13,720	² 6,954	¹ 9,961	—	¹ 8,563	—	¹ 8,800	—	—	—	—	—	—	—	250	—	—		
Total	879,759	336,297	22,149	17,291	70,100	144,711	7,200	315,013	—	—	3,464	—	500	125	21.5	705	176	12,785		
UNITED ARAB EMIRATES																				
Abu Dhabi																				
Abu Dhabi National Oil Co.— Ruwais	350,000	56,680	—	—	¹ 19,150	—	¹ 31,050	21,889	—	—	—	—	—	—	¹ 53.0	—	—	—		
								39,248												
								21,850												
Abu Dhabi National Oil Co.—Umm Al-Nar	150,000	—	—	—	—	³ 14,000	—	² 23,500	—	—	—	—	—	—	—	—	35	—		
								22,500												
Total	500,000	56,680	—	—	19,150	14,000	31,050	128,987	—	—	—	—	—	—	53.0	—	35	—		
Dubai																				
Emirates National Oil Co.— Jebel Ali	120,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	—		
Total	120,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Fujairah																				
Metro Oil Corp.	90,000	17,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Total	90,000	17,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Sharjah																				
Sharjah Oil Refining Co. Ltd.— Hamriyah	71,250	19,190	—	—	¹ 15,200	¹ 11,875	—	² 15,580	² 1,140	¹ 1,900	—	—	—	—	⁷ 5.8	—	16	700		
								⁴ 2,470												
								⁶ 11,590												
Total	71,250	19,190	—	—	15,200	11,875	—	29,640	1,140	1,900	—	—	—	—	5.8	—	16	700		

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd										
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt	
UNITED KINGDOM																			
England																			
Petroplus Holdings AG*— Coryton Essex ^F	172,000	94,050	—	—	61,200	³ 34,200	—	¹ 56,700	² 18,900	—	—	³ 31,500	9,900	—	—	—	—	2,430	
ConocoPhillips*— South Killingholme	221,000	157,000	³ 64,600	¹ 55,100	¹ 49,600	¹ 52,100	—	⁴ 49,500	² 11,500	—	¹ 4,000	³ 13,000	—	—	—	2,400	140	—	
								⁵ 48,400											
								⁷ 128,800											² 1,800
								⁹ 21,900											
								¹² 26,800											
AB Nynas Petroleum—Eastham ExxonMobil Refining & Supply Co.—Fawley	326,000	142,500	—	—	¹ 88,500	¹ 40,000	—	¹ 102,500	—	¹ 9,500	—	³ 23,000	9,000	—	⁶ 54.0	—	275	5,500	
								² 25,000											
								⁴ 54,000											
								⁵ 74,000											
								¹⁰ 33,000											
Petroplus International NV—Teesside	100,000	—	—	—	—	—	—	⁵ 24,000	—	—	—	—	—	—	—	—	4	—	
								¹² 16,000											
								¹¹ 11,500											
								¹⁰ 33,000											
								⁵ 74,000											
Shell U.K. Ltd.—Stanlow	267,000	130,000	—	—	² 68,000	¹ 27,000	—	¹ 60,000	² 11,000	—	¹ 8,700	¹ 5,738	4,999	—	—	—	3	—	
								³ 29,780											
								² 13,000											
								⁹ 57,000											
								¹³ 27,298											
Total SA Killingholme South Humberside	221,286	96,524	—	² 25,858	¹ 49,076	¹ 33,416	—	¹ 55,316	² 7,847	¹ 2,102	—	—	—	¹ 2,641	—	—	130		
								⁴ 22,609											
								⁵ 38,637						³ 1,326					
Total	1,334,286	647,074	64,600	80,958	316,376	241,496	—	946,560	49,247	11,602	14,500	73,238	23,899	3,967	54.0	2,400	552	25,930	
Scotland																			
AB Nynas Petroleum—Dundee	12,000	12,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8,000	
Ineos*—Grangemouth	195,700	64,600	—	—	—	¹ 39,600	¹ 36,000	² 56,700	² 4,500	—	—	—	—	—	¹ 49.0	—	—	—	
Total	207,700	76,600	—	—	—	39,600	36,000	56,700	4,500	—	—	—	—	—	49.0	—	—	8,000	
Wales																			
Chevron Corp.—Pembroke, Dyfed	210,000	105,000	—	² 26,000	¹ 90,000	³ 39,000	—	¹ 48,300	² 32,500	—	—	¹ 19,900	—	—	⁴ 8.0	—	160	—	
Murco Petroleum Ltd— Milford Haven ^Q	105,682	52,740	—	—	¹ 36,226	¹ 18,455	—	⁵ 60,000	² 5,955	¹ 1,994	—	³ 15,285	—	—	—	—	25	—	
								¹² 49,500											
								⁴ 30,808											
								⁵ 42,926											
Total	315,682	157,740	—	26,000	126,226	57,455	—	260,723	38,455	1,994	—	47,185	—	—	8.0	—	185	—	

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
UNITED STATES																		
ALABAMA																		
Gulf Atlantic Operations—Mobile Bay	20,000	15,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hunt Refining Co.*—Tuscaloosa	35,000	15,000	² 14,000	—	—	¹ 7,200	—	¹ 10,000 ⁴ 2,000 ⁵ 20,000 ⁸ 10,000	—	—	—	—	—	—	^a ¹ 8.0 ⁴ 8.0	500	120	14,000
Shell Chemical Co.—Saraland	85,000	28,000	—	—	—	¹ 22,500	⁴ 30,000	¹ 25,000 ⁹ 18,000	—	—	—	³ 7,500	—	—	⁶ 6.0	—	20	—
Total	140,000	58,000	14,000	—	—	29,700	30,000	85,000	—	—	—	7,500	—	—	22.0	500	140	14,000
ALASKA																		
BP PLC—Prudhoe Bay	15,000	—	³ 15,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ConocoPhillips—Kuparuk	14,500	—	³ 14,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flint Hills Resources *—North Pole	215,175	5,225	—	—	—	—	—	—	—	—	¹ 1,215	—	—	—	—	—	—	1,800
Petro Star Inc.—North Pole	17,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Petro Star Inc.—Valdez	48,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tesoro Corp.—Kenai	72,000	19,000	—	—	—	¹ 12,000	^c ¹ 12,500	¹ 12,500	—	—	—	³ 4,000	—	—	^a ¹ 13.0	—	19	1,000
Total	382,175	24,225	29,500	—	—	12,000	12,500	12,500	—	—	1,215	4,000	—	—	13.0	—	19	2,800
ARKANSAS																		
Cross Oil & Refining Co. Inc.—Smackover	7,000	3,000	—	—	—	—	—	¹ 4,500	—	—	—	—	4,500	—	¹ 2.5	—	—	1,500
Lion Oil Co.—El Dorado	70,000	27,075	—	—	¹ 17,550	³ 13,320	—	¹ 18,000 ² 6,120 ⁵ 25,200 ⁸ 18,900 ¹² 5,850	¹ 4,500	—	—	³ 5,940	—	—	—	—	157	10,800
Total	77,000	30,075	—	—	17,550	13,320	—	78,570	4,500	—	—	5,940	4,500	—	2.5	—	157	12,300
CALIFORNIA																		
Alon USA—Paramount ^H	54,000	30,000	—	—	—	¹ 10,000	—	¹ 11,000 ⁵ 18,000	—	—	—	³ 3,750	—	—	—	—	40	16,500
Big West Oil LLC—Bakersfield	65,000	39,000	² 22,000	—	—	¹ 14,700	^c ¹ 23,500	¹ 12,500 ¹³ 9,400	—	—	—	—	—	—	¹ 24.7 ⁶ 5.0	1,200	103	—
BP PLC*—Carson	264,500	140,000	² 70,500	—	¹ 102,000	¹ 52,000	^c ¹ 45,000	¹ 46,000 ² 36,700 ³ 23,000 ⁴ 20,000 ⁵ 24,000 ⁸ 95,000	² 15,500	—	—	¹ 8,300 ³ 23,000	—	¹ 2,700	¹ 105.0 ⁴ 28.0	1,029	140	—
Chevron Corp.—El Segundo	260,000	136,000	² 59,000	—	¹ 65,000	³ 44,000	¹ 46,000	¹ 41,000 ² 13,000 ⁴ 33,000 ⁵ 36,000	¹ 30,000	—	—	¹ 7,000 ³ 20,000	—	—	^a ² 146.0 ⁷ 10.0	4,064	544	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd									Production capacity, b/cd								
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Chevron Corp.—Richmond	243,000	110,000	—	—	¹ 80,000	¹ 69,000	^c ¹ 51,000 ^c ³ 38,250 ^c ⁴ 65,000	¹ 58,000 ⁴ 59,000 ⁵ 30,000 ¹¹ 30,000	¹ 24,000	¹ 3,700	—	¹ 8,600 ³ 28,000	16,000	—	¹ 150.0 ⁴ 20.0	—	600	—
ConocoPhillips—Los Angeles (Carson and Wilmington)	138,700	78,000	² 48,000	—	¹ 45,000	¹ 35,200	¹ 24,750	¹ 50,850	¹ 14,200	—	—	¹ 5,300	—	—	¹ 100.8	2,000	340	—
ConocoPhillips —Rodeo and Santa Maria	120,000	87,000	² 54,000	—	—	¹ 31,000	^c ¹ 37,000	¹ 29,000	—	—	—	³ 9,000	—	—	¹ 88.0	2,180	435	—
ExxonMobil Refining & Supply Co.—Torrance	149,500	98,500	² 52,500	—	¹ 96,000	¹ 19,000	^c ¹ 20,500	¹ 24,000	² 23,500	—	—	—	—	—	¹ 146.0	3,050	400	—
Kern Oil & Refining Co.— Bakersfield	25,000	—	—	—	—	¹ 3,000	—	¹ 4,500	—	—	—	—	—	—	⁶ 14.0	—	4.5	—
San Joaquin Refining Co. Inc.— Bakersfield	24,300	14,300	—	² 10,000	—	—	—	⁶ 3,000	—	—	—	—	4,000	—	¹ 4.2	—	6	6,500
Shell Oil Products US—Martinez	158,600	91,100	² 25,000 ³ 21,500	—	¹ 68,870	² 29,400	^c ¹ 37,900	¹ 27,000 ³ 19,000 ⁵ 22,950 ¹¹ 9,000	¹ 11,000	² 2,470	—	³ 15,000	—	—	¹ 101.0	1,150	360.0	15,000
Tesoro Corp.—Wilmington ¹	100,000	62,000	² 40,000	—	¹ 36,000	¹ 32,500	^c ¹ 32,000	¹³ 40,000 ¹³ 5,750 ³ 12,500 ⁴ 15,000 ⁸ 38,000	¹ 12,000	—	—	¹ 8,000	—	—	^a ¹ 55.0 ⁴ 55.0	1,615	265	—
Tesoro Corp.—Golden Eagle	161,000	144,000	¹ 42,000	—	¹ 66,500	¹ 20,000 ³ 22,000	^c ¹ 32,000	¹ 23,000 ³ 9,000 ⁵ 32,000 ⁶ 14,000 ⁸ 62,000 ¹² 27,000 ¹³ 5,500	¹ 14,000	—	—	—	—	—	¹ 74.0 ^a ¹ 31.0	1,500	140	—
Valero Energy Corp.—Benicia	139,500	78,500	¹ 28,000	—	¹ 69,000	² 36,000	^c ¹ 36,000	¹ 29,000 ³ 11,000 ⁴ 13,500	¹ 17,100	² 2,900	—	—	—	—	¹ 131.5	1,080	275	5,000

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Valero Energy Corp.—Wilmington	80,000	46,000	¹ 28,000	—	¹ 54,000	³ 17,500	—	⁵ 11,500 ⁸ 37,000 ¹² 44,000 ¹ 32,000 ⁵ 30,000 ⁸ 62,500 ¹² 15,000	² 14,500	—	—	¹ 10,200	—	—	^a ¹ 50.0	1,700	250	—
Total	1,983,100	1,154,400	490,500	10,000	682,370	435,300	488,900	1,720,950	175,800	9,070	—	158,350	20,000	2,700	1,403.2	20,568	3,903	43,000
COLORADO																		
Suncor Energy —Commerce City	92,000	34,500	—	—	¹ 27,000	¹ 18,100	—	¹ 18,600 ⁵ 12,500 ⁸ 12,000	—	¹ 3,500	—	—	—	—	—	—	94	10,500
Suncor Energy —Denver	<u>30,000</u>	<u>9,500</u>	<u>—</u>	<u>—</u>	<u>¹8,000</u>	<u>¹9,000</u>	<u>—</u>	<u>¹9,000</u>	<u>—</u>	<u>¹900</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>4</u>	<u>—</u>
Total	122,000	44,000	—	—	35,000	27,100	—	52,100	—	4,400	—	—	—	—	—	—	98	10,500
DELAWARE																		
Valero Energy Corp.—Delaware City	190,000	102,000	¹ 47,000	—	¹ 82,000	³ 43,000	^c ² 18,000	¹ 45,000 ⁴ 15,000 ⁵ 34,000 ¹² 36,000	¹ 11,000	¹ 5,040	¹ 1,260	¹ 6,000	—	—	¹ 40.0 ⁴ 22.0	2,200	532	—
Total	190,000	102,000	47,000	—	82,000	43,000	18,000	130,000	11,000	5,040	1,260	6,000	—	—	62.0	2,200	532	—
HAWAII																		
Chevron Corp.—Kapolei	54,000	30,000	—	—	¹ 21,000	—	—	¹ 3,000	¹ 4,000	² 1,000	—	¹ 1,200	—	—	¹ 2.0	—	—	1,300
Tesoro Hawaii Corp.—Kapolei	<u>93,700</u>	<u>39,500</u>	<u>—</u>	<u>²11,500</u>	<u>—</u>	<u>¹12,800</u>	<u>^c ¹17,600</u>	<u>¹12,800</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>^a ²18.0</u>	<u>—</u>	<u>34</u>	<u>1,000</u>
Total	147,700	69,500	—	11,500	21,000	12,800	17,600	15,800	4,000	1,000	—	1,200	—	—	20.0	—	34	2,300
ILLINOIS																		
Citgo Petroleum Corp.*—Lemont	158,650	71,250	² 36,000	—	¹ 60,300	¹ 28,080	—	¹ 44,100 ³ 3,960 ⁵ 31,950 ⁷ 13,500 ¹² 9,900	² 18,900	—	¹ 6,030	—	—	—	¹ 4.5	2,102	344	—
ExxonMobil Refining & Supply Co.—Joliet	240,000	121,500	² 56,000	—	¹ 93,000	³ 50,000	—	¹ 88,000 ² 19,500 ⁷ 84,500 ¹² 56,000	² 27,000	—	—	—	—	—	—	3,330	610	12,000
Marathon Petroleum Co. LLC—Robinson	192,000	61,900	² 27,900	—	¹ 46,600	² 36,100	¹ 26,600	¹ 59,900 ³ 36,100 ⁵ 69,400 ¹² 37,000	² 10,900	—	—	³ 14,300	—	—	—	1,187	183	—
WRB Refining LLC—Wood River ^P	306,000	119,000	¹ 16,000	—	¹ 91,000	¹ 15,000 ² 70,000	^c ¹ 37,000	¹ 63,000 ² 18,000 ⁴ 48,000	¹ 20,000	—	¹ 3,500	—	—	—	¹ 105.0	1,250	440	40,000

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
								⁵ 41,000 ¹² 55,000										
Total	896,650	373,650	135,900	—	290,900	235,280	63,600	742,710	76,800	—	9,530	14,300	—	—	109.5	7,869	1,577	52,000
INDIANA																		
BP PLC*—Whiting	405,000	189,000	² 34,500	—	¹ 165,000	³ 84,000	—	¹ 91,000 ² 52,700 ⁵ 99,000 ⁸ 121,000	¹ 25,000	—	—	³ 32,000	—	—	¹ 29.5	1,309	154	—
Countrymark Cooperative Inc.— Mount Vernon	23,500	8,000	—	—	¹ 7,850	³ 6,500	—	² 10,000	² 2,000	—	—	³ 2,200	—	—	—	—	8	2,700
Total	428,500	197,000	34,500	—	172,850	90,500	—	⁵ 11,000 384,700	27,000	—	—	34,200	—	—	29.5	1,309	162	2,700
KANSAS																		
Coffeyville Resources LLC— Coffeyville	100,000	50,000	² 19,000	—	¹ 29,100	¹ 17,000	—	² 29,000	² 9,200	—	—	³ 8,500	—	—	—	890	—	—
Frontier Oil Corp.—El Dorado	110,000	41,000	² 18,750	—	¹ 37,200	¹ 29,500	—	⁴ 7,000 ⁷ 25,000 ¹ 24,000 ² 18,000 ⁴ 9,000 ⁵ 44,500	² 13,000	—	¹ 2,200	³ 12,500	—	—	¹ 35.0	950	230	—
National Cooperative Refining Assoc.—McPherson	82,700	35,400	² 20,800	—	¹ 22,700	³ 22,700	^c ⁴ 33,100	¹ 23,600	² 6,400	—	—	¹ 2,600	—	—	¹ 32.1	819	123	—
								² 10,400 ⁵ 38,500				³ 10,400			⁴ 74.6			
Total	292,700	126,400	58,550	—	89,000	69,200	33,100	229,000	28,600	—	2,200	34,000	—	—	141.7	2,659	353	—
KENTUCKY																		
Marathon Petroleum Co. LLC— Catlettsburg	222,000	114,500	—	—	¹ 96,900	³ 48,500	—	¹ 49,400	² 19,000	—	¹ 6,700	³ 14,300	8,400	—	^a ¹ 32.3	—	406	21,900
Somerset Refinery Inc.—Somerset	5,500	—	—	—	—	² 1,500	—	² 6,200 ³ 6,200 ⁴ 28,500 ⁵ 57,000 ⁸ 99,800 ¹ 8,400 ¹³ 3,400 ¹ 1,500 ⁴ 500	—	—	—	—	—	—	—	—	—	—
Total	227,500	114,500	—	—	96,900	50,000	—	260,900	19,000	—	14,300	14,300	8,400	—	32.3	—	406	21,900
LOUISIANA																		
Calcasieu Refining Co.—Lake Charles	32,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd									Production capacity, b/cd								
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Calumet Lubricants Co.—Cotton Valley	9,500	—	—	—	—	—	—	¹³ 5,000	—	—	—	—	—	—	^a 12.5	—	—	—
Calumet Lubricants Co.—Cotton Valley															⁴ 2.5			
Calumet Lubricants Co.—Princeton	9,500	8,500	—	—	—	—	⁴ 8,000	—	—	—	—	—	7,500	—	^a 14.5	—	3	—
															⁴ 4.5			
Calumet Lubricants Co.—Shreveport	35,000	15,000	—	—	—	¹ 10,000	^c ⁴ 8,500	¹ 12,000	—	—	—	—	8,000	—	^a 16.1	—	15	—
								⁵ 7,000							⁴ 6.1			
								¹³ 5,000										
Chalmette Refining LLC—Chalmette	192,500	112,000	² 38,000	—	¹ 68,000	¹ 28,000	^c ¹ 18,500	¹³ 9,500	² 12,500	—	¹ 10,000	³ 10,000	—	—	—	2,050	920	—
						³ 19,000		⁷ 27,000										
								⁸ 62,000										
								¹² 44,000										
Cit-Con Oil Corp.—Lake Charles	—	36,100	—	—	—	—	—	—	—	—	—	—	8,550	—	—	—	—	—
Citgo Petroleum Corp.*—Lake Charles	440,000	79,800	² 88,200	—	¹ 126,000	¹ 42,300	^c ¹ 37,800	¹ 103,500	¹ 20,700	—	¹ 13,500	³ 28,800	9,900	¹³ 3,150	^a ¹ 47.7	3,870	567	—
						³ 52,200		² 6,300							⁶ 10.8			
								⁴ 26,100										
								⁵ 32,400										
								⁸ 64,800										
ConocoPhillips—Belle Chasse	247,000	92,000	² 25,200	—	¹ 104,000	¹ 42,000	—	¹ 47,000	² 38,000	—	¹ 24,600	—	—	—	⁷ 10.4	800	70	—
								⁷ 65,000			² 7,200							
								¹² 53,000										
								¹³ 32,400										
ConocoPhillips—Westlake	239,000	106,200	² 60,840	—	¹ 46,350	³ 44,325	^c ³ 34,200	¹ 46,350	¹ 7,200	¹ 540	—	—	—	—	^a ¹ 15.0	3,600	350	—
								⁴ 23,310							⁴ 112.0			
								⁵ 34,470										
								⁶ 4,000										
								⁷ 22,500										
								⁸ 45,720										
								¹² 31,500										
								¹³ 12,150										
ExxonMobil Refining & Supply Co.—Baton Rouge	503,000	231,500	² 114,000	—	¹ 229,000	² 75,500	^c ¹ 26,500	¹ 75,500	¹ 38,500	¹ 9,500	—	—	16,000	—	⁴ 12.0	5,430	690	—
								² 104,000										
								⁷ 105,500										
								¹¹ 22,000										
								¹² 97,000										
								¹³ 47,500										
Marathon Petroleum Co. LLC—Garyville	245,000	127,300	² 38,000	—	¹ 124,500	³ 46,100	—	¹ 47,500	² 26,600	—	—	¹ 20,900	—	—	—	2,368	686	28,500
								⁵ 102,600				³ 20,000						

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd									Production capacity, b/cd								
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Motiva Enterprises LLC—Convent	235,000	104,000	—	² 12,520	¹ 86,000	¹ 36,000	² 51,780	⁸ 100,700 ¹² 82,700 ¹⁴ 00,000 ⁴² 6,000 ⁵⁶ 4,000 ⁸³ 8,000 ¹² 48,000	¹ 14,000	² 4,000	—	³ 12,000	—	—	¹ 58.0	—	640	—
Motiva Enterprises LLC—Norco	220,000	78,000	² 21,380	—	¹ 107,000	¹ 20,000 ⁴ 38,000	^c ¹ 31,000	¹ 38,000 ⁵ 36,000 ¹² 49,500	¹ 14,000	¹ 7,780	—	—	—	¹ 8,000	¹ 50.0	1,020	140	—
Murphy Oil USA Inc.—Meraux	125,000	50,000	—	—	¹ 37,000	—	—	² 35,000 ⁷ 52,000 ⁹ 12,000 ¹³ 24,750	² 8,500	—	—	—	—	—	—	—	1,800	—
Placid Refining Co. LLC*—Port Allen	55,100	20,900	—	—	¹ 18,000	¹ 9,900	—	¹ 9,900 ⁵ 16,200	² 3,600	—	—	—	—	—	—	—	28	—
Shell Chemical Co.—St. Rose	55,000	28,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Valero Energy Corp.—Krotz Springs	83,000	36,000	—	—	¹ 33,000	¹ 12,000	—	¹ 14,000	—	¹ 2,100	—	³ 4,500	—	—	—	—	—	—
Valero Energy Corp.—Norco	186,000	200,000	² 70,400	—	¹ 100,000	³ 25,000	—	² 4,500 ² 36,000 ⁵⁴ 8,000 ⁸³ 5,100 ¹² 12,000	¹ 19,000	—	—	—	—	—	—	4,500	450	—
Total	2,911,600	1,325,300	456,020	12,520	1,078,850	500,325	216,280	2,275,950	202,600	23,920	55,300	96,200	49,950	11,150	342.1	23,638	6,359	28,500
MICHIGAN																		
Marathon Petroleum Co. LLC—Detroit	100,000	48,500	—	—	¹ 29,500	³ 18,100	—	¹ 27,600 ⁴ 6,500 ⁵² 8,500 ⁸³ 3,300	¹ 4,700	—	—	—	—	—	—	—	132	21,900
Total	100,000	48,500	—	—	29,500	18,100	—	95,900	4,700	—	—	—	—	—	—	—	132	21,900
MINNESOTA																		
Flint Hills Resources*—Rosemount	323,000	185,250	² 63,720	—	¹ 77,850	² 12,420 ³ 33,750	36,000	¹ 47,250 ² 47,250 ⁴⁴ 1,400 ⁵⁴ 4,000 ⁶⁶ 3,300 ⁸⁹ 1,350	¹ 11,250	¹ 900 ² 3,240	—	² 16,200	—	—	¹ 175.0 ⁵ 10.0	4,100	899	40,500
Marathon Petroleum Co. LLC—St. Paul Park	70,000	30,400	—	—	¹ 25,200	¹ 19,500	—	¹ 20,000 ⁴ 6,700 ⁵ 19,000	² 5,200	—	—	¹ 1,900 ³ 7,600	—	—	¹ 9.0	—	111	12,400

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd					Production capacity, b/cd												
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Holly Corp.—Artesia ^C	85,000	25,000	—	—	¹ 27,000	³ 24,000	—	¹ 35,000 ⁴ 2,400 ⁵ 32,000 ⁸ 28,000	² 9,000	—	—	³ 11,000	—	—	9.0	—	110	5,000
Total	129,600	25,000	—	—	41,500	36,100	—	116,700	10,800	2,000	—	15,000	—	—	9.0	—	113	5,000
NORTH DAKOTA																		
Tesoro West Coast Co.—Mandan	58,000	—	—	—	¹ 25,700	² 11,500	—	¹ 12,000 ³ 11,600	² 4,200	¹ 1,100	—	³ 4,800	—	—	—	—	15	—
Total	58,000	—	—	—	25,700	11,500	—	23,600	4,200	1,100	—	4,800	—	—	—	—	15	—
OHIO																		
BP PLC *—Toledo	160,000	71,500	² 33,500	—	—	³ 43,000	^c ¹ 31,000	¹ 40,000 ⁵ 17,000 ⁸ 47,000	¹ 11,500	—	—	—	—	—	¹ 33.0 ⁴ 33.0 ⁶ 8.0	1,013	120	9,000
Husky Energy Corp.*—Lima ^A	161,500	49,400	² 20,700	—	¹ 36,000	² 49,500	⁴ 23,400	¹ 56,700 ¹² 31,500	—	—	¹ 6,300	³ 16,200	—	—	⁵ 10.4	800	100	—
Marathon Petroleum Co. LLC—Canton	73,000	28,500	—	—	¹ 24,700	³ 18,100	—	¹ 23,800 ⁵ 9,500 ⁸ 25,700	² 6,700	¹ 800	—	—	—	—	—	—	122	12,800
Sunoco Inc.—Toledo	140,000	30,000	—	—	¹ 60,000	¹ 45,600	¹ 28,200	¹ 48,000	¹ 9,000	—	¹ 9,000	—	—	—	¹ 52.0	—	—	—
Total	534,500	179,400	54,200	—	120,700	156,200	82,600	299,200	27,200	800	15,300	16,200	—	—	136.4	1,813	342	21,800
OKLAHOMA																		
ConocoPhillips—Ponca City	187,000	80,000	² 24,000	—	¹ 61,000	¹ 44,000	—	¹ 43,300 ⁴ 15,000 ⁵ 56,000 ⁸ 21,000 ¹² 44,000 ¹³ 12,000	² 15,000	¹ 2,000	—	¹ 8,000 ³ 12,000	—	—	¹ 34.0 ⁶ 16.0	1,100	220	—
Sinclair Oil Corp.—Tulsa	70,000	25,175	—	—	¹ 16,200	¹ 10,800	—	¹ 10,800 ⁷ 15,500	¹ 2,700	—	—	³ 5,400	—	—	—	—	19	2,250
Sunoco Inc.—Tulsa	85,000	30,000	² 8,500	—	—	¹ 17,500	—	¹ 24,000 ¹¹ 10,500	—	—	—	—	8,500	—	—	350	—	—
Valero Energy Corp.—Ardmore	91,500	32,000	—	—	¹ 30,576	³ 21,679	¹ 12,000	¹ 26,500 ⁵ 28,000 ⁸ 32,000	² 7,012	—	—	³ 7,000	—	—	¹ 26.0 ⁴ 26.0	—	243	11,000
Wynnewood Refining Co.—Wynnewood	52,500	15,500	—	—	¹ 18,500	³ 13,000	¹ 5,500	¹ 12,000	² 4,000	—	—	³ 3,500	—	—	¹ 9.0	—	—	5,000
Total	486,000	182,675	32,500	—	126,276	106,979	17,500	350,600	28,712	2,000	—	35,900	8,500	—	111.0	1,450	482	18,250
PENNSYLVANIA																		
American Refining Group—Bradford	10,000	—	—	—	—	¹ 1,800	—	¹ 3,500	—	—	—	³ 600	2,600	—	—	—	—	—
ConocoPhillips—Trainer	185,000	75,400	—	—	¹ 48,400	³ 48,800	^c ⁴ 20,700	¹ 51,900 ⁵ 24,000	² 11,800	—	—	—	—	—	—	—	160	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Sunoco Inc.—Marcus Hook	175,000	26,400	—	—	¹ 93,000	¹ 15,600	—	⁸ 38,300 ¹² 13,000 ¹³ 6,000	¹ 10,000	—	¹ 19,200 ³ 2,400	—	—	¹ 2,600	¹ 6.0	—	—	—
Sunoco Inc.—Philadelphia	330,000	157,400	—	—	¹ 113,500	¹ 68,000	—	¹² 12,000 ¹⁸ 5,600	² 16,700	—	¹ 3,700 ⁴ 10,000	¹ 7,300	—	—	—	—	—	—
United Refining Co.—Warren	66,700	27,000	—	—	¹ 23,000	² 16,000	—	⁵ 78,000 ² 20,000	¹ 3,500	¹ 1,000	—	³ 6,800	—	—	—	—	—	12,000
Total	766,700	286,200	—	—	277,900	150,200	20,700	⁷ 14,000 382,300	42,000	1,000	35,300	14,700	2,600	2,600	6.0	—	160	12,000
TENNESSEE																		
Valero Energy Corp.—Memphis	190,000	—	—	—	¹ 68,000	³ 36,000	—	¹⁵ 2,000 ⁵ 1,000 ¹² 39,000 ¹³ 12,000	² 12,000	—	—	³ 4,000	—	—	—	—	106	—
Total	190,000	—	—	—	68,000	36,000	—	154,000	12,000	—	—	4,000	—	—	—	—	106	—
TEXAS																		
AGE Refining & Manufacturing— San Antonio	12,000	—	—	—	—	—	—	—	—	—	¹ 1,200	—	—	—	—	—	—	—
Alon USA—Big Spring	70,000	24,000	—	—	¹ 24,000	¹ 21,000	—	¹² 5,500 ⁴ 4,200 ⁵ 22,750 ⁸ 6,500 ¹² 9,000	² 5,000	—	¹ 2,000	—	—	—	—	—	135	8,000
BP PLC *—Texas City	475,000	237,000	² 43,000	—	¹ 175,000	² 138,000	¹ 60,000 ² 70,000	¹ 114,000 ² 47,000 ⁵ 79,000 ⁶ 59,000 ¹⁰ 105,000	² 35,000	—	¹ 95,000	—	—	—	⁵ 52.8 ⁶ 6.9	2,585	1,123	—
Citgo Petroleum Corp.*—Corpus Christi	156,750	73,625	² 37,800	—	¹ 72,450	³ 45,450	—	¹ 47,250	² 18,090	—	¹ 12,600	—	—	¹ 3,600	—	2,123	282	—
ConocoPhillips—Sweeny	247,000	125,500	² 70,900	—	¹ 97,000	³ 33,800	—	⁵ 44,100 ⁸ 56,880 ⁴ 11,070	² 19,600	—	² 8,35 ³ 3,600 ⁴ 11,070	² 9,100	—	—	⁵ 95.0 ⁷ 70.0	4,000	593	—
Delek Refining Ltd.—Tyler	60,000	15,000	² 6,500	—	¹ 20,200	³ 17,500	—	¹³ 16,000 ¹ 20,000	¹ 4,750	—	—	³ 5,000	—	—	—	250	18	—
ExxonMobil Refining & Supply Co.—Baytown	567,000	270,000	² 46,000	—	¹ 204,500	² 122,000	^c ¹ 26,500	⁵ 12,000 ¹ 50,000	¹ 36,000	—	—	—	21,500	—	⁶ 56.5	3,550	1,630	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd									Production capacity, b/cd								
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
			³ 39,000					² 113,000										
								⁴ 33,500										
								⁷ 202,000										
								⁸ 105,500										
								¹¹ 39,500										
								¹² 78,000										
ExxonMobil Refining & Supply Co.—Beaumont	348,500	143,000	² 48,000	—	¹ 113,000	³ 147,000	⁶ ¹ 61,500	¹ 117,000	¹ 15,500	—	—	² 24,500	10,000	¹ 4,500	⁵ 54.5	2,900	580	—
								² 65,000										
								⁴ 51,500										
								⁵ 33,000										
								¹¹ 6,000										
								¹³ 25,500										
Flint Hills Resources*—Corpus Christi	279,300	83,125	² 12,600	—	¹ 96,030	¹ 16,200	¹ 11,700	¹ 74,340	² 13,320	—	¹ 31,050	—	—	—	—	697	241	—
						³ 48,240		⁴ 13,950			⁴ 13,500							
								⁵ 48,600										
								⁸ 47,700										
								¹² 40,500										
Lyondell-Citgo Refining LP—Houston	282,600	191,100	² 98,500	—	¹ 97,000	¹ 33,700	—	¹ 65,900	¹ 11,250	—	¹ 8,350	—	4,050	¹ 4,000	—	5,000	1,042	—
								² 23,400										
								⁴ 24,600										
								⁵ 96,000										
								⁸ 98,000										
Marathon Petroleum Co. LLC— Texas City	72,000	—	—	—	¹ 54,200	¹ 10,500	—	—	² 12,400	—	¹ 1,900	—	—	—	—	—	37	—
Motiva Enterprises LLC—Port Arthur	285,000	124,000	² 50,000	—	¹ 84,000	³ 45,900	¹ 18,000	¹ 44,860	¹ 18,000	—	—	—	39,020	—	—	2,500	560	—
								² 14,400										
								⁴ 36,000										
								⁵ 45,580										
								⁸ 23,000										
								¹² 51,000										
Pasadena Refining System —Pasadena	117,000	41,000	² 12,000	—	¹ 50,000	³ 20,000	—	¹ 32,000	² 11,000	—	—	—	—	—	—	500	24	—
								⁵ 12,000										
Shell Deer Park Refining Co.— Deer Park	329,800	169,600	² 81,600	—	¹ 64,400	¹ 23,700	¹ 60,000	¹ 72,300	¹ 18,500	—	—	—	—	—	¹ 57.9	5,286	1,132	—
						² 42,500		⁴ 38,600							⁴ 35.4			
								⁵ 43,300										
								⁸ 46,700										
								⁹ 40,900										
								¹² 41,100										
Total SA—Port Arthur	231,452	51,781	—	—	¹ 76,493	³ 37,539	—	¹ 74,729	¹ 6,427	—	—	³ 13,501	—	—	—	—	270	1,667

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd					Production capacity, b/cd												
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Valero Energy Corp.—Corpus Christi	205,000	95,000	² 17,500	—	¹ 112,000	¹ 10,000	¹ 49,000	⁵ 52,137 ⁸ 29,576 ¹ 67,000	² 18,500	² 11,200	¹ 23,000	¹ 12,000	—	—	^a ¹ 194.0	998	790	38,000
						³ 57,000		⁴ 12,000 ⁵ 55,000 ⁸ 28,000 ¹⁰ 74,000 ¹² 60,000							⁴ 74.0			
Valero Energy Corp.—Houston	90,000	39,000	—	—	¹ 65,000	¹ 11,000	^m 23,000	¹ 13,000	¹ 11,000	² 1,400	—	—	—	—	—	—	300	—
								⁴ 9,500 ⁵ 27,500 ¹² 33,000										
Valero Energy Corp.—Port Arthur	250,000	145,000	² 100,000	—	¹ 80,000	³ 53,000	^c ⁴ 45,000	¹ 52,000	² 20,000	—	—	—	—	—	¹ 105.0 ⁴ 6.0	6,200	1,050	—
								² 30,000 ⁴ 30,000 ⁵ 55,000 ⁸ 65,000 ¹² 50,000										
Valero Energy Corp.—Sunray	166,660	53,200	—	—	¹ 54,465	¹ 18,500	^c ² 29,500	¹ 39,844	¹ 9,500	—	—	³ 7,000	—	¹ 2,200	—	—	60	—
						³ 28,900		² 22,000 ⁵ 32,368 ¹² 3,400						³ 2,700				
Valero Energy Corp.—Texas City	225,000	130,000	¹ 50,000	—	² 80,000	³ 14,500	—	¹ 15,000	² 12,000	—	—	³ 6,500	—	¹ 2,500	^a ⁴ 60.0	3,000	890	—
								⁴ 36,000 ⁵ 52,000 ¹⁰ 110,000 ¹² 50,000										
Valero Energy Corp.—Three Rivers	96,000	35,000	—	—	¹ 24,500	¹ 11,000	—	¹ 23,000	² 6,500	—	¹ 18,000	—	3,200	—	⁴ 10.0	—	—	—
						³ 23,000		⁴ 11,000 ⁵ 22,000 ⁸ 20,000 ¹¹ 2,300										
Western Refining Inc.—El Paso	117,000	34,700	—	—	¹ 28,000	¹ 17,700	—	¹ 18,300	¹ 8,200	—	—	¹ 2,500	—	—	—	—	20	4,800
								⁴ 8,200 ⁵ 11,300										
WRB Refining LLC—Borger ^P	146,000	71,000	23,000	—	¹ 51,000	¹ 29,000	—	¹ 34,000	² 17,000	—	—	¹ 14,000	—	—	¹ 90.0	1,250	400	—
								² 16,000 ⁴ 27,000 ⁷ 13,000 ⁸ 66,000				² 20,000 ³ 8,000						
Total	4,829,062	2,151,631	736,400	—	1,723,238	1,076,629	454,200	4,472,064	327,537	12,600	241,845	122,101	77,770	19,500	968.0	40,839	11,177	52,467

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
UTAH																		
Big West Oil LLC—Salt Lake City	30,000	5,000	—	—	¹ 11,500	³ 7,300	⁴ 1,600	¹ 9,000 ⁵ 9,500	² 2,500	—	—	¹ 2,500 ³ 1,700	—	—	—	—	4	—
Chevron Corp.—Salt Lake City	45,000	25,600	² 7,200	—	¹ 13,000	¹ 7,000	—	¹ 7,300 ⁵ 10,200 ⁷ 6,500 ⁸ 15,000	² 4,500	—	—	¹ 1,000	—	—	—	281	30	—
Holly Corp.—Woods Cross	26,400	—	—	—	¹ 8,900	¹ 8,000	—	¹ 12,000 ⁴ 3,000 ⁵ 10,000	² 2,900	—	—	³ 3,000	—	—	—	—	10	—
Silver Eagle Refining Inc.—Woods Cross	12,500	6,000	—	—	—	¹ 2,200	—	⁵ 2,200	—	—	—	—	—	—	—	—	—	1,200
Tesoro West Coast Co.—Salt Lake City	60,000	—	—	—	¹ 23,000	² 12,000	—	¹ 12,000 ⁵ 11,000	¹ 6,000	—	—	—	—	—	—	—	15	—
Total	173,900	36,600	7,200	—	56,400	36,500	1,600	111,700	15,900	—	—	8,200	—	—	—	281	59	1,200
VIRGINIA																		
Giant Refining—Yorktown	58,900	33,000	² 17,100	—	¹ 26,700	² 10,800	—	¹ 11,300 ⁷ 18,000	—	¹ 4,000	—	—	—	¹ 660	—	905	36	—
Total	58,900	33,000	17,100	—	26,700	10,800	—	29,300	—	4,000	—	—	—	660	—	905	36	—
WASHINGTON																		
BP PLC*—Ferndale	234,000	255,000	² 62,000	—	—	¹ 65,000	^c ¹ 61,000	¹ 53,000 ² 17,000 ³ 23,000 ⁵ 37,800	—	—	—	³ 24,000	—	—	¹ 90.0 ⁴ 42.0	1,446	80	—
ConocoPhillips—Ferndale	100,000	46,400	—	—	¹ 32,500	² 15,700	—	¹ 16,400 ⁴ 13,300 ⁷ 22,500 ¹² 18,000	² 8,600	—	—	¹ 4,000	—	—	—	—	105	—
Shell Oil Products US—Anacortes	148,600	65,500	² 25,700	—	¹ 57,900	¹ 33,000	—	¹ 33,000 ⁴ 15,800 ⁵ 44,400 ¹² 37,400	¹ 12,050	¹ 4,300	—	² 7,000	—	—	¹ 70	1,400	350	—
Tesoro West Coast Co.—Anacortes	113,300	47,200	—	—	¹ 44,800	² 26,500	—	¹ 36,000 ⁵ 18,500 ⁸ 7,100	¹ 11,000	—	—	¹ 3,400	—	—	—	—	48	1,000
US Oil & Refining Co.—Tacoma	39,000	17,700	—	—	—	¹ 5,650	—	¹ 8,200 ⁵ 6,600	—	—	—	³ 3,000	—	—	—	—	—	10,000
Total	634,900	431,800	87,700	—	135,200	145,850	61,000	408,000	31,650	4,300	—	41,400	—	—	139.0	2,846	583	11,000
WEST VIRGINIA																		
Ergon-West Virginia Inc.—Newell	19,400	8,400	—	—	—	¹ 3,600	—	¹ 4,600 ⁵ 8,000	—	—	—	—	4,800	—	¹ 4.1	—	1.0	—

WORLDWIDE REFINING Company and refinery location	Charge capacity, b/cd								Production capacity, b/cd									
	Crude	Vacuum distillation	Coking	Thermal operations	Catalytic cracking	Catalytic reforming	Catalytic hydrocracking	Catalytic hydrotreating	Alkylation	Pol./Dim.	Aromatics	Isomerization	Lubes	Oxygenates	Hydrogen (MMcfd)	Coke (t/d)	Sulfur (t/d)	Asphalt
Total	19,400	8,400	—	—	—	3,600	—	⁹ 6,000 18,600	—	—	—	—	4,800	—	4.1	—	1	—
WISCONSIN																		
Murphy Oil USA Inc.—Superior	33,250	19,500	—	—	¹⁹ 9,900	¹⁷ 200	—	¹⁸ 1,100 ^{7,020} ^{115,500}	²¹ 350	—	—	³¹ 800	—	—	—	—	15	6,750
Total	33,250	19,500	—	—	9,900	7,200	—	20,620	1,350	—	—	1,800	—	—	—	—	15	6,750
WYOMING																		
Frontier Refining Inc.—Cheyenne	46,000	26,000	¹⁰ 0,000	—	¹² 0,000	¹⁷ 600	—	¹⁸ 9,900 ^{16,500} ^{45,5}	²⁴ 200	—	—	¹¹ 600	—	—	^a 15.5	560	85	—
Sinclair / Little America—Casper	22,500	6,000	—	—	¹⁰ 0,000	¹⁵ 500	—	¹⁷ 500 ^{58,500}	—	¹¹ 000	—	—	—	—	—	—	19.7	—
Sinclair Oil Corp.—Sinclair	66,000	6,500	—	—	¹⁰ 0,000	¹⁵ 700	—	¹⁷ 500 ^{58,000}	—	¹³ 00	—	—	—	—	—	—	19.7	1,750
Wyoming Refining Co.—Newcastle	12,500	1,500	—	—	¹⁵ 500	¹² 750	—	¹³ 500 ^{54,000}	²¹ 300	—	—	—	—	—	—	—	4	—
Total	147,000	40,000	10,000	—	37,500	21,550	—	64,400	5,500	1,300	—	1,600	—	—	11.0	560	128	1,750
URUGUAY																		
ANCAP—La Teja Montevideo	50,000	25,000	—	²⁷ 000	¹² 000	¹² 000	—	¹² 000 ^{26,000} ^{45,000}	—	—	—	³⁶ 000	—	—	—	—	—	—
Total	50,000	25,000	—	7,000	12,000	12,000	—	23,000	—	—	—	6,000	—	—	—	—	—	—
UZBEKISTAN																		
Uzbekneftegaz—Alty-Arik	66,271	—	—	¹⁹ 585	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Uzbekneftegaz—Bukhara	50,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Uzbekneftegaz—Fergana	106,000	45,671	²¹ 7,667	—	—	¹²³ 487	—	¹²³ 900 ^{116,904}	—	—	—	—	9,397	—	—	650	—	4,151
Total	222,271	45,671	17,667	9,585	—	23,487	—	30,804	—	—	—	—	9,397	—	—	650	—	4,151
VENEZUELA																		
Paraguana Refining Center— Cardon/Judibana, Falcon	940,000	503,975	²⁸ 7,300 ³⁵⁷ 600	—	¹¹⁶⁶ 500	³⁴⁰ 500	—	¹⁵⁴ 000 ⁸¹⁸⁴ 500 ¹¹¹³⁹ 500 ¹²² 700	¹²² 500 ²¹⁸ 900	—	—	¹²⁰ 700	12,020	¹¹ 530 ³⁸ 500	¹¹⁴¹ 0	5,200	1,454	36,000
Paraguana Refining Center— Maracaibo, Zulia	15,000	8,835	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Petroleos de Venezuela SA— El Palito, Puerto Cabello	126,900	71,200	—	—	¹⁵¹ 700	¹⁹ 000	—	9,000	²²⁰ 300	—	¹² 000	—	—	⁴² 800	⁴⁶ 8	—	—	—
Petroleos de Venezuela SA— Puerto de la Cruz	195,000	—	—	—	¹¹³ 600	—	—	—	²⁴ 100	—	—	—	—	—	—	—	17	—

[illegible]