

# Oil & natural gas extraction data

**Richard Heede**  
 Climate Mitigation Services  
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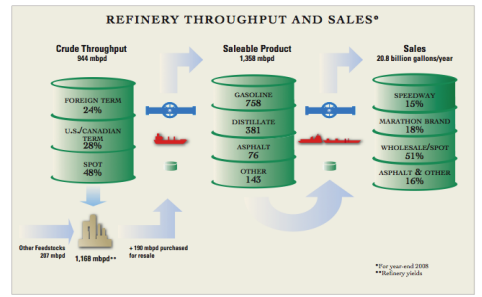
## Marathon Oil Corp., USA

yellow column indicates original reported units **Investor-owned**

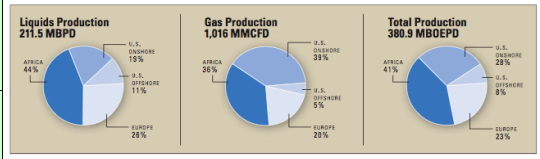
www.marathonoil.com Houston Marathon Petroleum (downstream), Findlay OH

## Production / Extraction data

Year	Crude Oil & NGL			Natural Gas			na	
	Net production Thousand bbl/d	Net production Million bbl /yr	Net production Million tonnes/yr	Net production Million cf/d	Net production Million SCM/d	Net production Billion cf/yr	Gross production Million tonnes/yr	Gross production Million tonnes/yr
1937								
1938		19						
1939		21						
1940		23						
1941		25	interpolated					
1942		27	interpolated					
1943		30						
1944		32						
1945		32	interpolated					
1946		31						
1947		33						
1948		35						
1949		29	net prod'n	99.6	net prod'n	36		
1950	80.0	29	net prod'n	112.5	net prod'n	41		
1951	85.9	31	net prod'n	142.8	net prod'n	52		
1952	96.3	35	net prod'n	181.3	net prod'n	66		
1953	97.5	36	net prod'n	199.5	net prod'n	73		
1954	103.6	38	net prod'n	210.1	net prod'n	77		
1955	99.6	36	net prod'n	255.5	net prod'n	93		
1956	105.1	38	net prod'n	282.3	net prod'n	103		
1957	108.4	40	net prod'n	290.1	net prod'n	106		
1958	106.6	39	net prod'n	288.5	net prod'n	105		
1959	100.7	37	net prod'n	301.3	net prod'n	110		
1960	109.3	40	net prod'n	285.0	net prod'n	104		
1961	110.9	40	net prod'n	293.1	net prod'n	107		
1962	118.5	43	net prod'n	319.6	net prod'n	117		
1963	132.1	48	Libyan prod'n starts	330.0	net prod'n	120		
1964	149.4	55	net (US+ 50% Libya)	338.7	net prod'n	124		
1965	179.6	66	net (US+ 50% Libya)	320.6	net prod'n	117		
1966	205.4	75	net (US+ 50% Libya)	369.0	net prod'n	135		
1967	233.9	85	net (US+ 50% Libya)	389.3	net prod'n	142		
1968	234.0	85	net (US+ 50% Libya)	415.4	net prod'n	152		
1969	267.8	98	net (US+ 50% Libya)	430.7	net prod'n	157		
1970	295.6	108	net (US+ 50% Libya)	476.9	net prod'n	174		
1971	340.2	124	net (US+ 50% Libya)	462.2	net prod'n	169		
1972	327.6	120	net (US+ 50% Libya)	429.3	net prod'n	157		
1973	322.0	118	net (US+ 50% Libya)	419.2	net prod'n	153		
1974	312.2	114	net (US+ 50% Libya)	412.8	net prod'n	151		
1975	279.2	102	net (US+ 50% Libya)	446.7	net prod'n	163		
1976	265.1	97	net (US+ 50% Libya)	424.8	net prod'n	155		
1977	289.9	106	net (US+ 50% Libya)	462.6	net prod'n	169		
1978	311.5	114	net (US+ 50% Libya)	439.9	net prod'n	161		
1979	299.1	109	net (US+ 50% Libya)	385.0	net prod'n	141		
1980	303.8	111	net (US+ 50% Libya)			156	interpolated	
1981		108	interpolated			171	interpolated	
1982		104	interpolated			186	interpolated	
1983		98	interpolated			201	interpolated	
1984	OGJ100	95	then USX	OGJ100	216			
1985	OGJ100	92	then USX	OGJ100	375			
1986	OGJ100	92	then USX	OGJ100	375			
1987	OGJ100	80	then USX	OGJ100	359			
1988	OGJ100	81	then USX	OGJ100	412			
1989	OGJ100	76	then USX	OGJ100	469			
1990	OGJ100	72	then USX	OGJ100	424			
1991	OGJ100	71	then USX	OGJ100	392			
1992	OGJ100	61	then USX	OGJ100	338			
1993	OGJ100	57	then USX	OGJ100	317			
1994	OGJ100	62	then USX	OGJ100	345			
1995	OGJ100	74	then USX	OGJ100	390			
1996	OGJ100	66	then USX	OGJ100	418			
1997	OGJ100	60	then USX	OGJ100	445			
1998	OGJ100	71	then USX	OGJ100	436			
1999	OGJ100	76	then USX	OGJ100	458			
2000	OGJ100	75	then USX	OGJ100	442			
2001		209		1,273	Marathon data	465		
2002		207		1,230	Marathon data	449		
2003		194		1,170	Marathon data	427		
2004		181		1,051	Marathon data	384		
2005		164	Oil Sands Mining		Marathon data	340		
2006		223	thousand bbl /day		Marathon data	340		
2007		197	acquired Oct07		Marathon data	309		
2008		211	4.00		Marathon data	338		
2009		248	32.0		Marathon data	371		
2010		245	12.0		Marathon data	350		
			11.0			320		
<b>Total</b>		<b>4,975</b>				<b>14,804</b>		



4,600 branded gas stations (mid-west & SE)



Marathon heavy oil upgrading project, Detroit; 2008 AnnRpt p 13.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
94																	
95																	
96																	
97													2012	2011	2010		
98	Average daily net sales: (a)																
99	Exploration and Production Segment																
100	Liquid hydrocarbons (mmbpd)												282	219	245		
101	Natural gas (mmcf/d) (b)												902	866	878		
102	Barrels of oil equivalent (mboepd)												432	363	391		
103	Oil Sands Mining Segment																
104	Synthetic Crude (mmbpd)												47	43	29		
105	Integrated Gas Segment																
106	Liquefied natural gas (mtpd)												6,290	7,086	6,859		
107	Methanol (mtpd)												1,298	1,282	1,049		
108	Annual net sales: (a)																
109	Exploration and Production Segment																
110	Liquid hydrocarbons (mmbbl)												89	89	75		
111	Natural gas (bcf) (b)												320	344	357		
112	Barrels of oil equivalent (mmboe)												143	146	135		
113	Oil Sands Mining Segment																
114	Synthetic Crude (mmbbl)												11	12	12		
115	Integrated Gas Segment																
116	Liquefied natural gas (thousand metric tonnes)												2,504	2,424	2,300		
117	Methanol (thousand metric tonnes)												383	435	357		
118	Net proved reserves: (a)																
119	Oil and Gas Producing Activities																
120	Liquid hydrocarbons (mmbbl)												630	622	636		
121	Synthetic crude oil (mmbbl) (b)												572	603	n/a		
122	Natural gas (bcf)												2,817	2,724	3,351		
123	Barrels of oil equivalent (mmboe)												1,538	1,679	1,195		
124	Oil Sands Mining Segment																
125	Bitumen (mmbbl) (b)												n/a	n/a	388		
126	Refinery operations:																
127	Refinery runs – crude oil refined (mmbpd)												1,173	957	944		
128	Refinery runs – other charge and blend stocks (mmbpd)												162	196	207		
129	Number of employees (a) (b)												3,367	3,322	29,677		

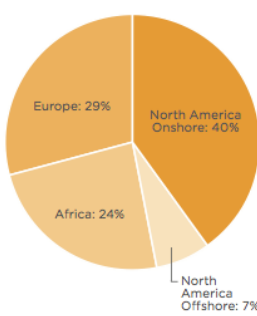
Marathon Highlights 2010: financial, page 1.

2010, 2009, and 2008, respectively

(a) Our downstream business was spun-off on June 30, 2011, and has been reported as discontinued operations in 2011 and 2010. (b) As of end of period presented. (c) Excludes acquisitions and includes accruals. (d) Excludes discontinued operations. (e) Includes natural gas acquired for injection and subsequent resale of 15, 16 and 18 mmmcf in the years ended December 31, 2012, 2011 and 2010, respectively. (f) Includes natural gas acquired for injection and subsequent resale of 5, 6 and 7 bcf in the years ended December 31, 2012, 2011 and 2010, respectively. (g) Reduction in number of employees in 2011 was due to the spin-off of the downstream business.

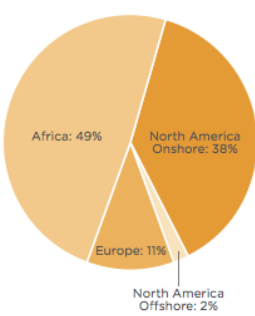
Marathon Factbook 2012, page 3.

Liquid Hydrocarbon and Syncrude Production  
329 MMBLD

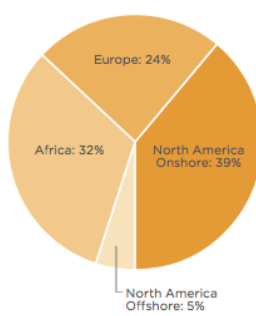


Marathon Factbook 2012, page 8.

Gas Production  
902 MMCFD



Total Production  
479 MBOED



Marathon Factbook 2012, pages 6-7.

**Cell:** I9**Comment:** Rick Heede:

Oil, gas, and coal extraction companies or state-owned enterprises are named in this cell. Company names and operating units change over time, and we typically enter the most recent entity name in this cell. Several current companies have merged with or acquired other major production companies (e.g., ExxonMobil, ChevronTexaco, BP-Amoco, ConocoPhillips, TotalFinaElf, BP acquired Atlantic Richfield, and so forth).

Note: production for merged companies prior to the merger are reported under the new combined company. For example, ExxonMobil Corporation combines production Exxon (Standard Oil (New Jersey), aka simply as "Jersey", from 1911 to 1971) and Mobil (Standard Oil Company of New York, Socony, Socony-Vacuum, and Socony Mobil from 1911 to 1975) prior to the merger of Exxon Corporation and Mobil Corporation in 1999. Both companies were divested from Standard Oil in 1911 with 43 and 9 percent of Standard Oil's assets, respectively.

Note: In cases in which two or more majors merged, we use two or more columns under crude oil and two or more columns under natural gas and each summed in the third column for the merged unit. Production for the new merged operating company is shown in the summary column only.

**Cell:** D11**Comment:** Rick Heede:

On this worksheet we report extractive data for each company or state-owned enterprise. Three columns under crude oil and natural gas allow for data reported in one of three formats (e.g., thousand barrels per day, or million barrels per year, or million tonnes per year). Coal is normally reported in U.S. or metric tonnes per year.

Note: the carbon content of the extracted resources is adjusted by a number of factors before emissions estimates are made in the worksheet 1 to the left. Most important is the subtraction of the fraction typically sequestered in petrochemicals and other non-combusted uses such as road oils, waxes, lubricants, greases, etc. See the comment for each extracted resource for detailed discussions of the combusted vs sequestered fractions.

**Cell:** D12**Comment:** Rick Heede:

Oil and gs production data from Marathon (2004) Fact Book 2004, p. 3.

**Cell:** D15**Comment:** Rick Heede:

History ([www.marathon.com](http://www.marathon.com)) Mar05:  
 1887 Ohio Oil Co. formed  
 1889 Purchased by Standard Oil Trust.  
 1891 The Ohio resumes independent operation  
 1930 The Ohio purchases the Transcontinental Oil Company, acquiring the Marathon product name, the Pheidippides Greek runner trademark, and the "Best in the long run" slogan.  
 1920s-1930s Discovers oil in West Texas (Yates field in 1926) and Mexico (also gas)  
 1948 Amerada, Conoco, and The Ohio Oil Company combine to form the Conorado Petroleum Corporation to identify geologically promising production sites worldwide.  
 1959 The Ohio purchases the Aurora Gasoline Company, pipelines, etc.  
 1961 Discovers Kenai natural gas field in 1959 in Alaska  
 1962 In celebration of its 75th anniversary, The Ohio changes its name to Marathon Oil Company in honor of its brand-name motor fuel and launches its new logo design. Marathon Oil Company acquires Plymouth Oil Company, launching the company into the wholesale gasoline business. Marathon, Amerada Hess and Conoco form The Oasis Group and achieve world-class commercial oil discoveries in Libya's Sirte Basin.  
 1965 Discovers McArthur River oil field in the Cook Inlet.  
 1967 Pioneers LNG tankers.  
 1971 Discovers oil in Ireland.  
 1976 Marathon purchases international exploration and production company, Pan Ocean Oil Corporation, gaining assets in the United Kingdom, Nigeria, Norway and Indonesia.  
 1982 Marathon Oil Company becomes a wholly-owned subsidiary of the United States Steel Corporation.  
 1982 UK Brae field.  
 1984 Marathon Oil Company acquires the exploration and production properties of Husky Oil, a premier producer in Wyoming.  
 1985 The Yates Field (TX) produces its billionth barrel of oil.  
 1998 Marathon and Ashland Inc. form Marathon Ashland Petroleum LLC (MAP), a joint venture combining the companies' refining, marketing, and transportation businesses. Today, MAP is the sixth-largest oil refining company in the nation. Marathon also adds Canadian assets through its acquisition of Tarragon Oil & Gas Ltd.  
 2001 Marathon acquires Pennaco Energy adding a leading coal bed methane asset and expanding its natural gas resources in North America. The USX Corporation's Board of Directors vote to separate the Marathon Group and United States Steel LLC and re-establish them as two independent companies.  
 2002 Marathon Oil Corporation established as a standalone company trading on the New York Stock Exchange under the symbol MRO. Marathon acquires CMS Energy's assets in Equatorial Guinea.  
 2003 Marathon acquires Khanty Mansiysk Oil Corporation (KMOC), forming the basis for a new core area in Russia.

**Cell:** E19**Comment:** Rick Heede:

Ohio Oil Company (1940) 52nd Annual Report. Gross prod'n of 25.113875 million bbl, and net (reported here) of 20.778183 million bbl. Net of gross equals 0.827. Also mentions 52,722 bbl per day net oil prod'n in 1938, which equals 19.24353 million bbl.

**Cell:** E20**Comment:** Rick Heede:

Ohio Oil Company (1941) 53rd Annual Report. Gross prod'n of 27.734 million bbl, and net (reported here) of 22.625 million bbl. Net of gross equals 0.816. No mention of previous year's production. The report does mention -- without any volume data!! -- that Ohio's "natural gas sales through its two wholly owned subsidiaries, Billings Gas Company and The Rocky Mountain Gas Company, increased 8% over sales volume in 1939."

**Cell:** E24**Comment:** Rick Heede:

Oil production in 1943 and 1944 from Ohio Oil Company/Marathon (1945) Annual Report.  
 1943: net prod'n of 81,493 bbls per day = 29.745 million bbl per year.  
 1944: Net production of 31.942 million bbls; reported gross production was 36.417 million bbls; net equals 0.877 of gross production.

**Cell:** E26**Comment:** Rick Heede:

Ohio Oil Company (1948) Sixtieth Annual Report, The year in brief: net production for 1946 and 1947.

**Cell:** E28**Comment:** Rick Heede:

Ditto, 1949 Ann Rpt, net production, reports acreage of oil and gas lands held, but no gas prod'n data in the year in brief section (from EarthJustice copies at UC-B, Feb06).

Note: 1949 reported production of 28.1 million bbl was revised to 29.21 million bbl in the 1958 ten-year statistical summary, which also included 8.4 percent NGL production (as well as including natural gas production).

**Cell:** D29**Comment:** Rick Heede:

Ohio Oil Company (1959) 71st Annual Report 1958, Ten Year Statistical Summary, pp. 26-27. Reports "net production of Crude Oil and NGL," (which we sum and report here), and "Natural Gas Produced and Sold." Original data in "total liquid hydrocarbons per day." 1949: 80,040 bbl per day.

The NGL proportion (of crude + NGL) increased from 8.4 percent in 1949 to 10.5 percent in 1958.

**Cell:** H29**Comment:** Rick Heede:

Marathon

Ohio Oil Company (1959) 71st Annual Report 1958, Ten Year Statistical Summary, pp. 26-27. Reports Crude Oil, NGL, and "Natural Gas Produced and Sold." Original data in "thousand cubic feet per day." I.e., reported 1949: 99,584 kcf/d = 99.584 million cf/d.

**Cell:** D39

**Comment:** Rick Heede:

Marathon Oil Company (1968) 80th Annual Report 1967, Ten Year Statistical Summary, pp. 28-29. Reports "net production of Crude Oil and NGL in U.S. and Canada," and "Natural Gas Produced." Original data in "total liquid hydrocarbons per day." 1958: 100,681 bbl per day. We also add "Libyan crude oil produced (tanker liftings)" in column D, which is zero in 1961, 17,468 bbl per day in 1962, and rises to 209,235 bbl per day in 1967.

**Cell:** H39

**Comment:** Rick Heede:

Marathon Oil Company (1968) 80th Annual Report 1967, Ten Year Statistical Summary, pp. 28-29. Reports "Natural Gas Produced" (in units of thousand cf per day: 1959 = 301.305 million cf/d, which we convert to 109.9 Bcf/yr.

Note: All gas production is listed under U.S. and Canada, and none under "Outside North America" (Libya).

**Cell:** D48

**Comment:** Rick Heede:

Marathon Oil Company (1976) Annual Report 1975, Ten Year Statistical Summary, pp. 36-37. Reports "net production of Crude Oil and NGL in U.S. and Canada," plus "Libyan crude oil produced and purchased (Tanker liftings)", which is new twist (previously only reported Libyan production; inasmuch as no detail is given regarding the percentage purchased, CMS assumes that purchases are small relative to production and assigns the full amount to Marathon production).

The data entered here is a sum of US, Canadian (net prod'n) and Libyan production. For example, in 1968: US net = 145 kbbl per day, Canada = 8 kbbl per day, and Libya = 229 kbbl per day, for a total of 382 kbbl per day.

**Cell:** H48

**Comment:** Rick Heede:

Marathon Oil Company (1976) Annual Report 1975, Ten Year Statistical Summary, pp. 36-37. Reports "net production of Natural Gas" in both US and Canada (Canadian prod'n runs about 1-2 percent of total).

**Cell:** D55

**Comment:** Rick Heede:

Marathon Oil Company (1980) Annual Report 1979. Five year Statistical Summary, p. 47, gives net crude oil and NGL production for both US and Canada, and Crude oil produced (tanker liftings of equity crude oil)", which provides new information on Marathon's equity oil from Libya, which was reported in previous years as "Libyan crude oil produced and purchased." Since data for 1975 is reported in this and the 1975 annual report, we can see that half (85,107 bbl of 171,463 bbl) of Marathon's Libyan oil is equity oil produced by Marathon. 1975 therefore becomes US (174.9 kbbl) plus Canada (5.1 kbbl) plus Libuan equity oil (85.1 kbbl) totals 265.1 kbbl per day, rather than 352 kbbl per day using the 1975 annual report.

Note: We retroactively make this adjustment from 1962 (when Libyan production started) to 1974 so as to include only Marathon produced oil, even though we can only assume that Marathon has produced half of its "tanker liftings" from Libya since 1962 based only on the 1975 data overlap. To be clear: we have subtracted 50 percent of Marathon's oil from Libya 1962 and added this half to the company's North American production.

**Cell:** H55

**Comment:** Rick Heede:

Rick Heede:  
1979 Annual Report Marathon Oil Company. Natural Gas: U.S. and Canada totals summed. Were not summed in the report. Values reported in thousand cubic feet per day

**Cell:** D81

**Comment:** Rick Heede:

Oil and gs production data from Marathon (2004) Fact Book 2004, p. 3  
EI (2003) Top 100 cononant, p. 170.

**Cell:** D85

**Comment:** Rick Heede:

Marathon Annual Report 2008, page 16. Also shows natural gas 2005-2008, and "Oil Sands Mining Segment", which is a separate category from Production Segment / Liquids and Gas.

**Cell:** H85

**Comment:** Rick Heede:

Marathon Annual Report 2008, page 16.

**Cell:** F87

**Comment:** Rick Heede:

Marathon Annual Report 2008, page 16. "Oil Sands Mining Segment" is a separate category from Production Segment / Liquids and Gas, and we add this production to crude & NGL for 2007 to 2010. Oil sands properties acquired on 17 October 2007.

Footnote to production table : "The oil sands mining operations were acquired October 18, 2007. Daily volumes for 2007 represent total volumes since the acquisition date over total days in the period." We thus multiply daily production -- 4,000 barrels per day -- by 74 days for 2007.

**Cell:** D89

**Comment:** Rick Heede:

Marathon 10-K for 2010, pg 120 (pdf p. 124).

**Cell:** H89

**Comment:** Rick Heede:

Ar 2010 pdf pg 120