

# Oil and natural gas extraction data

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Unocal, USA (acquired by Chevron)

www.unocal.com El Segundo, CA www.chevron.com

yellow column indicates original reported units

Investor-owned

## Production / Extraction data

Year	Crude Oil & NGL						Natural Gas					
	Company 1	Company 2	Total	Company 1	Company 2	Total	Company 1	Company 2	Total	Company 1	Company 2	Total
	Thousand bbl /d	Thousand bbl /d	Thousand bbl /d	Million bbl /yr	Million bbl /yr	Million bbl /yr	Million cf/d	Million cf/d	Million cf/d	Billion cf/yr	Billion cf/yr	Billion cf/yr
	Union 1890-83, Unocal 83-2004	Pure Oil Company		Union 1890-1983, Unocal 1983-2004	Pure Oil Company 1938-1965		Union 1890-83, Unocal 83-2004			Union 1890-1983, Unocal 1983-2004	Pure Oil Company 1938-1965	



Operations	2004	2003	2002
Net proved reserves			
Crude oil, condensate and natural gas liquids (million barrels) <sup>(a)</sup>		659	675
Natural gas — dry basis (billion cubic feet) <sup>(a)</sup>		6,568	6,505
Geothermal resources — (billion kilowatt-hours) <sup>(b)</sup>		145	150
— (million equivalent barrels) <sup>(b)</sup>		217	225
Net daily production			
Crude oil, condensate and natural gas liquids (thousand barrels) <sup>(a)</sup>		159	160
Natural gas — dry basis (million cubic feet) <sup>(a)</sup>		1,510	1,728
Geothermal resources (million kilowatt-hours)		14	12

(a) Includes our proportional shares of equity investees and 100% of consolidated subsidiaries. See the Supplemental Information on Oil and Gas Exploration and Production Activities and the Operating Summary table in Unocal's 2004 Form 10-K for further information.  
(b) Includes reserves underlying a service fee arrangement in the Philippines.

Unocal Annual Report 2004

Year	Company 1	Company 2	Total	Company 1	Company 2	Total
	Thousand bbl /d	Thousand bbl /d	Thousand bbl /d	Million bbl /yr	Million bbl /yr	Million bbl /yr
1924						
1925						
1926						
1927						
1928						
1929						
1930						
1931						
1932						
1933						
1934						
1935						
1936						
1937						
1938						
1939						
1940						
1941						
1942						
1943						
1944		85.4				
1945						
1946						
1947						
1948						
1949						
1950						
1951						
1952						
1953						
1954						
1955						
1956						
1957						
1958						
1959						
1960						
1961						
1962	net 195.5		196	71.4	don't add 29.307	71
1963	net 205.4		205	75.0	don't add 30.008	75
1964	net 218.2		218	79.6	don't add 31.053	80
1965	net 239.4		239	87.4	< merger 1965	87
1966	net 260.5		261	95.1		95
1967	net 271.6		272	99.1		99
1968	net 306.4		306	111.8		112
1969	net 340.0		340	124.1		124
1970	net 371.1		371	135.5		135
1971	net 362.6		363	132.3		132
1972	net 364.7		365	133.1		133
1973	net 379.7		380	138.6		139
1974	net 363.8		364	132.8		133
1975	net 367.0		367	134.0		134
1976	net 348.9		349	127.3		127
1977	net 335.2		335	122.3		122
1978	net 311.9		312	113.8		114
1979	net 265.1		265	96.8		97
1980				97.0	interpolated	97
1981				97.2	interpolated	97
1982				97.4	interpolated	97
1983				97.6	interpolated	98
1984				97.8	interpolated	98
1985				98.0		98
1986				98.0		98
1987				97.0	Oil & Gas Journal 1984-2001	97
1988				97.0		97
1989				95.0		95
1990				84.0		84
1991				94.0		94
1992				84.0		84
1993				84.0		84
1994				95.0		95
1995				67.0		67
1996				76.0		76
1997				72.0		72
1998				67.0		67
1999				64.0		64
2000	161		161	65.0		65
2001	170		170	61.0		61
2002	167		167	61.0		61
2003	160		160	58.4	Unocal AnnRpts	58
2004	159		159	58.0		58

Company reports annual net gas production (see column N)	Union Oil	Pure Oil	Total
	64.3		64
	60.7	80.6	141
	62.5	98.2	161
	66.2	100.3	167
	85.4	93.9	179
	92.5	103.8	196
	105.1	106.9	212
	129.1	114.6	244
	152.7	112.1	265
763.2 est. sales	763	278.6	279
796.7 0.9116 of prod'	797	290.8	291
869.3 est. sales	869	317.3	317
892.9 0.9116 of prod'	893	325.9	326
983.4 est. sales	983	359.0	359
1,047.6 0.9116 of prod'	1,048	382.4	382
1,116.7 est. sales	1,117	407.6	408
1,378.0 0.9116 of prod'	1,378	503.0	503
1,459.7 est. sales	1,460	532.8	533
1,468.4 0.9116 of prod'	1,468	536.0	536
1,489.7 est. sales	1,490	543.8	544
1,398.5 0.9116 of prod'	1,398	510.4	510
1,403.7 est. sales	1,404	512.3	512
1,314.7 sales=0.9116 p	1,315	479.9	480
1,253.5 sales	1,254	457.5	458
1,128.8 sales	1,129	412.0	412
1,056.7 sales	1,057	385.7	386
1,084.2 sales	1,084	395.7	396
	390.1	interpolated	390
	384.5	interpolated	384
	378.9	interpolated	379
	373.2	interpolated	373
	367.6	interpolated	368
	362		362
	362	Oil & Gas Journal 1984-2001	362
	428		428
	448		448
	481		481
	521		521
	581		581
	611		611
	623		623
	686		686
	690		690
	700		700
	721		721
	690		690
	706		706
	755		755
	786		786
	666		666
	631	Unocal annrpt	631
	551		551

Unocal was acquired by Chevron in 2005

Production data shifted to Chevron

<b>Total</b>	na	na	na	<b>4,955</b>	<b>627</b>	<b>5,582</b>	na	na	na	<b>22,343</b>	<b>810</b>	<b>23,153</b>
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**Cell: I9****Comment:** Rick Heede:

Unocal history ([wikipedia: en.wikipedia.org/wiki/Unocal\\_Corporation](http://en.wikipedia.org/wiki/Unocal_Corporation))

On August 10, 2005, Unocal merged with Chevron Corporation and became a wholly owned subsidiary. Unocal has now ceased operations as an independent company, but continues to conduct many operations as Union Oil Company of California, a Chevron company.

The company was founded on October 17, 1890, when it was incorporated in Santa Paula, California, as the Union Oil Company of California. The company was formed by the merger of co-founders Lyman Stewart, Thomas Bard, and Wallace Hardison's holdings. Union Oil moved its headquarters to Los Angeles, in 1901. The original headquarters in Santa Paula is a California Historical Landmark.

About 1910, Union Oil made a strategic alliance with the Independent Producers Agency, a group of small oil producers, to build pipelines from the Kern County oil fields to Union Oil facilities on the Pacific coast. This gave the independent producers an alternative to what they perceived as the low prices paid by Standard Oil and the high freight rates charged by the railroads to move crude oil.[3] It gave Union access to a large volume of crude oil. The situation was later fictionalized in the 2007 film *There Will Be Blood*.

In 1919, the Union Oil Company of Delaware was incorporated as a holding company for the Union Oil Company of California.[4] In 1920, Union Oil purchased the Central Petroleum Company from the Texas Company. In 1922, the Union Oil Associates, Inc. was incorporated in California as a holding company to prevent control of the Union Oil Company of California passing to foreign interests after the merger of the Union Oil Company of Delaware with Royal Dutch Company.

The company expanded to national status in 1965, when Union Oil merged with the Pure Oil Company, headquartered in what was then Palatine, Illinois and now Schaumburg, Illinois. Over the next two decades, Union became the major oil producer in southern Alaska and a major natural gas producer in the Gulf of Mexico. The company was reorganized in 1983, and Union Oil Company of California became an operating subsidiary of a new Delaware-based holding company, Unocal Corporation. In 1985, Mesa Petroleum, controlled by billionaire T. Boone Pickens, attempted a takeover of Unocal Corp. that resulted in the Delaware Supreme Court landmark decision *Unocal v. Mesa Petroleum*, which upheld Unocal's takeover defense. Virtually all operations are conducted by Union Oil Company of California (Union Oil).

In 1977, Unocal acquired The Molybdenum Corporation of America (now Molycorp). Among the assets acquired was Mountain Pass rare earth mine, a then world's largest producer of rare earth elements.

In 1989, Unocal placed its midwest refining and marketing assets, including Union's 150,000-barrel-per-day (24,000 m<sup>3</sup>/d) refinery in Lemont, Illinois, into a 50/50 joint venture with Petróleos de Venezuela, S.A. (P.D.V.S.A.). The joint venture, known as the Uno-Ven Company, was headquartered in Arlington Heights, Illinois and primarily comprising employees from Union Oil's then Schaumburg, Illinois, division headquarters and Lemont, Illinois, refinery. The joint venture was dissolved in 1997, with P.D.V.S.A. receiving full ownership. During the life of the joint venture, the familiar Union 76 brand name continued in full force. At the termination of the joint venture, most stations were converted to Citgo, which is controlled by P.D.V.S.A.

In 1997, Unocal sold its western United States refining and marketing operations to Tosco Corporation, including the rights to the Union 76 brand for refining and marketing (except in states where Uno-Ven operated). Tosco was later acquired by Phillips Petroleum who later merged with Conoco to form ConocoPhillips.

**Cell: I12****Comment:** Rick Heede:

Total net worldwide crude oil plus natural gas liquids produced by each company or state-owned enterprise. Where data is available, we list net production.

Crude production includes natural gas liquids (NGL) unless noted.

**Cell: P12****Comment:** Rick Heede:

Natural gas is typically reported as dry gas; natural gas liquids are reported under crude oil.

Carbon dioxide is normally removed from the gas flow at the production site (see "Vented Carbon Dioxide").

"SCM/d" = standard cubic meters per day. "cf/d" = cubic feet per day.

Net production typically excludes a number of diverted gas streams. Quantities and fractions vary; ExxonMobil's exclusions are probably typical of the industry: "Net production available for sale quantities are the volumes withdrawn from ... natural gas reserves, excluding royalties and volumes due to others when produced, and excluding gas purchased from others, gas consumed in producing operations, field processing plant losses, volumes used for gas lift, gas injections and cycling operations, quantities flared, and volume shrinkage due to the removal of condensate or natural gas liquids production."

ExxonMobil Corporation (2004) 2003 Financial and Operating Review, [www.exxonmobil.com](http://www.exxonmobil.com), p. 55.

**Cell: D13****Comment:** Rick Heede:

This expanded template for oil, gas, & coal is used to enter extraction data for extant companies that have merged with or acquired other significant production entities. Prominent examples include British Petroleum\* and ExxonMobil.\*\*

\* BP merged with Amoco (Standard Oil Company (Indiana)) in 1998 and its acquisition of Atlantic Richfield (ARCO) in 2000; Atlantic merged with Richfield in 1966, and ARCO had acquired Sinclair Petroleum in 1969.

\*\* Exxon Corporation and Mobil Corporation merged in 1999.

**Cell: G15****Comment:** Rick Heede:

Union Oil Company formed in 1890 in Santa Paula, California. Union acquired Pure Oil Company of Illinois in 1965. The company re-organized as Unocal in 1983. CNOOC attempted to acquire Unocal in early 2005. The company's shareholders approved its "merger" with Chevron Corporation in August 2005.

**Cell: H15****Comment:** Rick Heede:

Unocal website (24May06): "In 1965, Union Oil merged with The Pure Oil Company of Illinois, lifting the company from regional to national status with operations in 37 states. "

**Cell: N15****Comment:** Rick Heede:

Union Oil Company formed in 1890 in Santa Paula, California. Union acquired Pure Oil Company of Illinois in 1965. The company re-organized as Unocal in 1983. CNOOC attempted to acquire Unocal in early 2005. The company's shareholders approved its "merger" with Chevron Corporation in August 2005.

**Cell: O15****Comment:** Rick Heede:

Unocal website (24May06): "In 1965, Union Oil merged with The Pure Oil Company of Illinois, lifting the company from regional to national status with operations in 37 states. "

**Cell: G19****Comment:** Rick Heede:

Union Oil Company of California annual report for 1927, p. 2, shows "crude oil and natural gasoline production subject to royalty" totaling 16.036 million bbl in 1926. CMS applies the net of gross production 0.8486 based on 1934 data to estimate net production in 1926 (note: 1927 net is estimated based on the 1928 annual report).

**Cell: G20****Comment:** Rick Heede:

Union Oil Company of California annual report for 1928, p. 2, shows "crude oil and natural gasoline production subject to royalty" totaling 13.74 million bbl in 1928. CMS applies the net of gross production 0.8486 based on 1934 data to estimate net production in 1927 and 1928.

**Cell: G22****Comment:** Rick Heede:

Union Oil Company of California annual report for 1930, p. 2, shows "crude oil and natural gasoline production subject to royalty" totaling 18.23 million bbl in 1930. CMS applies the net of gross production 0.8486 based on 1934 data to estimate net production in 1929 and 1930.

**Cell: G24****Comment:** Rick Heede:

Oil and gas production for 2000-2001 from EI (2003) Top 100, p. 264.

**Cell: G26****Comment:** Rick Heede:

Oil and gas production for 2000-2001 from EI (2003) Top 100, p. 264.

**Cell: G29****Comment:** Rick Heede:

Unocal

Union Oil Company of California 1937 annual report shows "net crude oil and natural gasoline production, after deducting royalty interests" totaled 18.819 million bbl in 1937. Gross crude oil and natural gasoline production ("subject to royalty") totaled 22.9616 million bbl, for a net equal to 0.8196 of gross production. No natural gas production is reported.

**Cell:** G31

**Comment:** Rick Heede:

Union Oil Company of California 1938 annual report shows "crude oil and natural gasoline productions subject to royalty" of 21.04 million bbl in 1938. Union Oil Company of California 1937 annual report shows "net crude oil and natural gasoline production, after deducting royalty interests" totaled 18.819 million bbl in 1937. Net equaled 0.8196 of gross production in 1937, which NMS applies to gross 1938 production to estimate 1938 net production. No natural gas production is reported.

**Cell:** H31

**Comment:** Rick Heede:

Pure Oil Company annual reports from 1939 through 1953 show net crude oil production for each year (as well as gross production, for example, net was 0.873 of gross in 1944). As Pure noted in its 1944 report, royalty production was "in nearly all cases" purchased back by the producing company. CMS, nonetheless, always reports net crude (and NGL) production when data is available, on the theory that CMS cannot verify that purchased oil is its own royalty production.

**Cell:** G32

**Comment:** Rick Heede:

Union Oil Company of California 1940 annual report shows "crude oil production, excluding royalty and co-wner interests" of 15.05 million bbl in 1940; CMS adds reported production of natural gasoline (1.23 million bbl). No natural gas production is reported.

**Cell:** G34

**Comment:** Rick Heede:

Union Oil Company of California 1942 annual report shows "crude oil production, excluding royalty and co-wner interests" of 18.07 million bbl in 1942; CMS adds reported production of natural gasoline (1.00 million bbl). Other than the mention of natural gasoline production (which is condensate or NGL produced from wet gas), production of natural gas is not reported.

**Cell:** G36

**Comment:** Rick Heede:

Union Oil Company of California 1944 annual report shows "crude oil production, excluding royalty and co-wner interests" of 21.7 million bbl in 1943; CMS adds reported production of natural gasoline (1.34 million bbl). Other than the mention of natural gasoline production (which is condensate or NGL produced from wet gas), production of natural gas is not reported.

**Cell:** G37

**Comment:** Rick Heede:

Union Oil Company of California 1953 annual report, pp. 34-35, shows "crude oil production" for 1944 through 1953. It does not specify whether net or gross production. Net natural gas production (or sales) is shown.

**Cell:** H37

**Comment:** Rick Heede:

Pure Oil Company annual report 1944, p. 4, states that "in nearly all cases the royalty oil is sold to the producing company." Both net and gross crude oil production is shown (gross = 97,800 bbl per day vs net = 85,400 bbl per day; net equals 0.873 of gross).

**Cell:** N45

**Comment:** Rick Heede:

Union Oil Company does not report natural gas production prior to 1953, although the Company did produce large quantities of gas -- as evidenced by its production of "natural gasolines" which is nowadays known as natural gas liquids (NGL). The disposition of the unreported dry natural gas is unknown.

**Cell:** G46

**Comment:** Rick Heede:

Union Oil Company of California 1962 annual report, pp. 22-23, shows "net crude oil production" plus "net natural gas liquids production," entered here as million bbl per year. The discontinuity from 1961 to 1962 is due to the 1971 report including production by the Pure Oil Company included starting in 1962, but not included in the 1962 annual report: Pure was acquired in 1964.

**Cell:** N46

**Comment:** Rick Heede:

Union Oil Company of California 1962 annual report, pp. 22-23, shows "net natural gas production." Unlike later annual reports, the 1962 report shows net production, which CMS enters here. (In later years, CMS used reported or estimated natural gas sales.) Gas sales is also reported, but exceeds the net natural gas production, and the company clearly purchased additional gas that it marketed. In 1961, for example, sales totaled 187.4 Bcf, whereas net production totaled 152.7 Bcf for the year.

**Cell:** O46

**Comment:** Rick Heede:

Pure Oil Company does not report natural gas production prior to 1954.

**Cell:** H47

**Comment:** Rick Heede:

Pure Oil Company annual report for 1964, p. 16, shows "net crude oil production in USA & Canada, South America & other, and natural gas & LPG production. In 1961, these categories were 25.33, 2.52, and 1.70 million bbl, respectively. Union Oil Company of California acquired Pure Oil Company in 1965, and the production data entered for Union from 1962 through 1964 include Pure Oil production data. CMS thus adds Pure Oil Company crude and condensate production in 1961 and earlier.

**Cell:** O47

**Comment:** Rick Heede:

Pure Oil Company annual report for 1964, p. 16, shows "net natural gas production for 1954 through 1964. Union Oil Company of California acquired Pure Oil Company in 1965, and the production data entered for Union from 1962 through 1964 include Pure Oil production data. CMS thus adds Pure Oil Company natural gas production in 1961 and earlier.

**Cell:** D55

**Comment:** Rick Heede:

Union Oil Company of California annual report 1971, p. 30-31. "net daily production of crude oil" plus daily NGL production (20,800 barrels per day in 1962 rising to 37,900 bbl/day in 1971).

**Cell:** K55

**Comment:** Rick Heede:

Union Oil Company of California annual report 1971, p. 30-31. "natural gas production, million cubic feet daily." Company does not report natural gas sales, which was 0.9116 of production in 1975 (1,315 of 1,442 million cf/d). Thus CMS estimates gas sales by multiplying production by 0.9116. Union gas production increases from 837.2 million cf/day in 1962 to 1.61 Bcf/day in 1971.

**Cell:** D64

**Comment:** Rick Heede:

Union Oil Company of California annual report 1975, p. 30. "net daily production of crude oil" plus daily NGL production (averages ~36,000 barrels per day)..

**Cell:** K64

**Comment:** Rick Heede:

Union Oil Company of California annual report 1975, p. 30. "natural gas production, million cubic feet daily." Company may also report natural gas sales, which was 0.9116 of production in 1975 (1,315 of 1,442 million cf/d), but this section of the statistical table is missing from our photocopy, and CMS estimates gas sales by multiplying production by 0.9116.

Note: CMS prefers to use sales data when available, since it assumed that the preponderance of the difference is used in company operations, e.g., refineries, pipelines, etc, and a fraction of the difference is attributed to the company for such internal operations in a later step in the CO2 emissions estimating process.

**Cell:** D68

Unocal

**Comment:** Rick Heede:

Union Oil Company of California annual report 1979, p. 34. "net daily production of crude oil" plus daily NGL production.

**Cell:** K68

**Comment:** Rick Heede:

Union Oil Company of California annual report 1979, p. 35. "natural gas sales, million cubic feet daily." Company also reports natural gas production, which was 1.167 of sales in 1979. CMS prefers to use sales data when available, since it assumed that the preponderance of the difference is used in company operations, e.g., refineries, pipelines, etc, and a fraction of the difference is attributed to the company for such internal operations in a later step in the CO2 emissions estimating process.

**Cell:** D95

**Comment:** Rick Heede:

Net liquids production 2002-2004 from Unocal (2005) SEC 10-K report, [www.unocal.com](http://www.unocal.com).

**Cell:** K95

**Comment:** Rick Heede:

Net natural gas production 2002-2004 from Unocal (2005) SEC 10-K report, [www.unocal.com](http://www.unocal.com).