

Table 2. Reserves Changes, 1977-2001

Components of Change	Lower 48 States			U.S. Total		
	Volume	Average per Year	Percent of Reserves Additions	Volume	Average per Year	Percent of Reserves Additions
Crude Oil (million barrels of 42 U.S. gallons)						
Proved Reserves as of 12/31/76	24,928	—	—	33,502	—	—
New Field Discoveries	4,687	187	10.8	5,638	226	10.6
New Reservoir Discoveries in Old Fields	3,593	144	8.3	3,715	149	7.0
Extensions	11,365	455	26.3	12,896	516	24.2
Total Discoveries	19,645	786	45.4	22,249	890	41.7
Revisions, Adjustments, Sales & Acquisitions	23,642	946	54.6	31,078	1,243	58.3
Total Reserves Additions	43,287	1,731	100.0	53,327	2,133	100.0
Production	50,556	2,022	116.8	64,383	2,575	120.7
Net Reserves Change	-7,269	-291	-16.8	-11,056	-442	-20.7
Dry Natural Gas (billion cubic feet at 14.73 psia and 60° Fahrenheit)						
Proved Reserves as of 12/31/76	180,838	—	—	213,278	—	—
New Field Discoveries	49,636	1,985	11.5	49,858	1,994	12.0
New Reservoir Discoveries in Old Fields	63,624	2,545	14.7	64,029	2,561	15.4
Extensions	200,455	8,018	46.4	203,382	8,135	48.8
Total Discoveries	313,715	12,549	72.7	317,269	12,691	76.1
Revisions, Adjustments, Sales & Acquisitions	118,030	4,721	27.3	99,756	3,990	23.9
Total Reserves Additions	431,745	17,270	100.0	417,025	16,681	100.0
Production	437,923	17,517	101.4	446,843	17,874	107.2
Net Reserves Change	-6,178	-247	-1.4	-29,818	-1,193	-7.2

Source: U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 1977-2001 annual reports, DOE/EIA-0216.{1-24}

- *extensions* and *new reservoir discoveries in old fields* exceeded the post-1976 averages for crude oil.

Dry Natural Gas: Since 1977 U.S. operators have:

- discovered an average of 12,691 billion cubic feet per year of new reserves,
- had proved reserves additions of an average 16,681 billion cubic feet per year from *total discoveries, net revisions and adjustments, and net sales and acquisitions*, and
- had an average net reduction in U.S. reserves of 1,193 billion cubic feet per year.

Like crude oil reserves, natural gas reserves have been sustained primarily by proved ultimate recovery appreciation since 1977. Usually *extensions* rather than *net revisions and adjustments* are the largest component. *Extensions* account for 49 percent while *net revisions and adjustments* account for only 24 percent of all reserves additions since 1977. In 2001, *net revisions, adjustments, sales, and acquisitions* were 12 percent of all reserves additions. In 2001, *extensions* were 63 percent of all reserves additions.

Compared to the averages of reserves changes since 1977, 2001 was an up year for natural gas reserves additions from *total discoveries*. Operators reported 22,758 billion cubic feet of *total discoveries* of dry natural gas proved reserves, 79 percent more than the post-1976 average (12,691 billion cubic feet). Also, the net of *revisions, adjustments, sales, and acquisitions* was 23 percent lower in 2001 (3,054 billion cubic feet) compared to the post-1976 U.S. average (3,990 billion cubic feet per year).

Economics and Drilling

Economics: This section describes the price behavior in 2001 and the following section addresses drilling.

Table 3 lists the average annual domestic wellhead prices of crude oil and natural gas, as well as the average number of active rotary drilling rigs, from 1977 to 2001.