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Oil and Gas Extraction

2002



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Statistics Canada
Manufacturing, Construction and Energy Division

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User information

Symbols

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- p preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published

Note to users

Due to resource limitations, capital and operating expenditures estimates shown in text table 1, table 1, and table 3 are compiled from the largest operators. These businesses are believed to account for 98% of the total economic activity of the industry.

Acknowledgements

This publication was prepared under the direction of:

Andy Kohut, Director, Manufacturing, Construction & Energy Division

Robert Pagnutti, Assistant Director, Manufacturing, Construction & Energy Division

Justin Lacroix, Chief, Energy section

Pierre Després, Unit head, Energy section

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Highlights

- The value of marketable production from crude oil, natural gas and natural gas liquids declined by 8.6 % during the year, from a total of \$63.1 billion recorded in 2001, to \$57.7 billion in 2002.
- Although the year 2001 noted a record 19,752 well completions in Canada, total well completions in 2002 fell by 13.0 % to 17,182 wells.
- Capital expenditures in the conventional sector decreased 17.5% to \$18.0 billion, reflecting generally lower prices for natural gas during the year.
- In Canada's oil sands region, the continuing development of non-conventional resources, through in-situ, mining and upgraders, recorded an increase in overall capital expenditures of 14.3 %, from \$5.9 billion in 2001, to \$6.8 billion in 2002.

Analysis

Volumes – Tables 7 and 8

During 2002, the marketable production of crude oil and equivalent increased by 6.2 % to 137.0 million cubic metres, from 129.0 million cubic metres in 2001. The higher volumes were necessitated by the slight increase to domestic refineries, and the marked increase required by the export market in the United States. Synthetic crude oil production (including crude bitumen) continued to increase as it has done for the past ten years, replacing depleting crude production from older conventional fields. Marketable natural gas production increased marginally by 0.5% to 172.2 billion cubic metres, from 171.4 billion cubic metres recorded in 2001. Although export volumes to the United States dipped slightly, the domestic demand for gas increased.

Exports for Canadian natural gas to the U.S. in 2002 declined by about 0.5%, from a volume of 108.2 billion cubic metres in the previous year to 107.7 billion cubic metres.

Exports of crude oil and equivalents to the U.S. increased by 6.9% whereas volumes shipped to other countries dropped substantially by 42.3%. Shipments to the U.S. increased to 84.8 million cubic metres from last year's volume of 79.3 million cubic metres. During 2002, volumes exported to other countries fell to 155 thousand cubic metres from 270 thousand cubic metres in 2001.

Demand by Canadian refineries for domestically produced crude oil and equivalent increased by 7.1% to 53.1 million cubic metres during 2002. Imports of crude oil and equivalent dropped to 51.1 million cubic metres during this period, from 53.5 million cubic metres in 2001, for a decrease of 4.5%.

Domestic sales of natural gas (including direct sales) increased by 5.1% in 2002, to 70.3 billion cubic metres from 66.9 billion cubic metres in 2001. The increase in sales was attributable to the higher demand required by the residential, commercial and industrial sectors.

Values – Tables 4 and 5-1

In 2002, the value of marketable production (including synthetic crude oil, natural gas and natural gas liquids) amounted to \$57.7 billion. This was a decrease of 8.6% from the \$63.2 billion recorded in 2001. World crude oil prices continued to be strong, however there was a decline in natural gas prices during the year.

The value of crude oil and equivalent (including field condensate and pentanes plus) increased by 20.2% to \$30.0 billion due to the increase in production volume. The value of natural gas, however, fell markedly by 29.6% to \$23.7 billion, although production increased slightly, reflecting a sharp reduction in natural gas prices. The value of natural gas processing plant products (which are propane, butane, ethane, and sulphur) amounted to some \$4.1 billion, down by 8.9% over the 2001 level. The province of Alberta continued to maintain its dominance during 2002 in the value of marketable production, accounting for 72.5% or \$41.8 billion of the \$57.7 billion.

Expenditures – Conventional sector (Table 3)

Operating expenditures (classified here as expenditures relating to field and well operations, natural gas processing and re-processing plant operations, taxes (excluding income taxes), other operating expenditures and royalties) decreased to \$17.4 billion in 2002 from \$20.8 billion recorded in 2001, for a decline of 16.4%. During this year, royalty payments accounted for 45.8%, field and well operations 44.0%, natural gas processing plants almost 8.0%, and taxes 2.2%.

Capital expenditures (classified as expenditures relating to geological and geophysical operations, exploration drilling, land acquisition and rentals, development drilling, production facilities, enhanced recovery and pressure maintenance, natural gas plants and other) decreased to \$18.0 billion in 2002 from \$21.8 billion in 2001. During the current year, geological and geophysical spending accounted for 6.4%, exploratory and development drilling 54.6%, production facilities 25.4%, and natural gas processing plants 4.5%. Land acquisition and rentals (which includes permit fees, bonuses, legal and filing fees) accounted for 9.1% of the total capital expenditures.

The above expenditures exclude the non-conventional regions, which are the geographic areas of Cold Lake, Lloydminster, Peace River, Athabasca, Wabasca, Lindbergh, Wolf Lake, Frog Lake and Britnell. See text table 1 for expenditure details relating to this sector. In these regions, the capital expenditures rose by 14.3% during the year to \$6.8 billion from \$5.9 billion in 2001.

Drilling – Table 2

Total well drilling completions decreased during 2002 by 13% to 17,182 from 19,752 in 2001. The number of exploratory well completions is a leading indicator of future field development used to determine reserves additions and production. During the year, the number of exploration wells completed fell by almost 20%, to 4,044 from 5,017 wells completed in the previous year, while only 10,694 development wells were completed, down 15.0% from 2001. This year, overall successful oil well completions amounted to 4,319 compared to 4,732 oil wells in 2001 while the number of gas wells fell to 9,061 compared to 10,757 gas wells completed in 2001.

Reserves – Table 6 and text table 2

Remaining established reserves of conventional crude oil and equivalent (excluding oilsands and crude bitumen) again decreased by year-end 2002 to 796 324 thousand cubic metres from 829 697 thousand cubic metres in 2001. Reflective of the search by industry for new supplies of conventional crude oil, reserves replacement amounted to 65% of produced oil and equivalent during 2002. At current rates of extraction, Canadian reserves of conventional crude oil and equivalent have an estimated economic life of approximately 8.4 years, down marginally from 2001.

Synthetic crude oil and developed bitumen reserves are estimated to be 1 097 381 thousand cubic metres, an increase of 2.5% over 2001. At current rates of production, these reserves have an economic life of 26 years. It should be noted that Canada's non-conventional oilsands deposits located in Northern Alberta are among the largest in the world. This resource base is estimated to contain some 397 billion cubic metres, of which 48 billion cubic metres are recoverable using current technology. However, oilsands projects to extract this resource require large amounts of capital.

Marketable natural gas reserves decreased by 1.7% in 2002, to 1 664 billion cubic metres from 1 694 billion cubic metres in 2001. Almost 84% of natural gas production was replaced through development drilling. Natural gas reserves have continued to decline over the past several years, and based on current production rates, gas reserves have an economic life of about 9 years. Non-conventional natural gas prospects, such as coal bed methane and tight sands gas, are extensive and only recently are intensive studies being performed in these areas.

Text table 1
Non-conventional oil sector expenditures

	In-situ	Mining	Upgraders	Total non-conventional expenditures 2002	Cumulative 1947 to 2002
millions of dollars					
Capital expenditures Including land acquisition and retention costs, exploratory and delineation drilling, research and development, fixed installations, machinery and equipment, housing and pollution control equipment	1,456.80	4,170.40	1123.6	6,750.80	36,483.40
Operating costs Including taxes, royalties, administration expense, other operating expenses	542.6	2,038.2	158.2	2,739.0	44,996.8
Total expenditures	1,999.4	6,208.6	1,281.8	9,489.8	81,480.2

Text table 2
Developed non-conventional oil reserves, 2002

	Mining – Integrated synthetic crude oil	In-situ bitumen
thousands of cubic metres		
Remaining reserves at 31st of December 2001	781 708	289 227
Gross additions in 2002	19 192	49 782
Reserves at 31 st of December 2001 plus 2002 gross additions	800 900	339 009
Less 2002 net production ¹	25 264	17 264
Remaining reserves at 31st of December 2002	775 636	321 745
Net change in reserves during 2002	(6 072)	32 518

1. Preliminary estimate.

Source(s): Canadian Association of Petroleum Producers.

Text table 3
Value added, non-conventional oil sector¹, 2002

	Value of marketable production	Cost of fuel, electricity, materials and supplies	Value added – Producing activity
millions of dollars			
Canada	9,219.4	..	..

1. Represents synthetic crude and crude bitumen producers.

Text table 4
Royalty allocation

	2002	2001	2000	1999	1998	1997
	millions of dollars					
Total royalties, Canada ¹	7,968.0	12,106.3	11,129.3	5,059.0	3,376.3	4,554.1
Federal crown royalties	21.8	42.9	18.9	9.3	7.0	11.9
Provincial crown royalties	6,642.9	9,628.3	8,854.8	3,990.1	2,616.7	3,649.1
Non-crown royalties and other	1,303.3	2,435.1	2,255.6	1,059.6	752.6	893.1

1. Net applicable incentive credits; excludes synthetic crude oil royalties.

Related products

Selected publications from Statistics Canada

45-004-X	The Supply and Disposition of Refined Petroleum Products in Canada
55-201-X	Pipeline Transportation of Crude Oil and Refined Petroleum Products
57-003-X	Report on Energy Supply-demand in Canada
57-205-X	Natural Gas Transportation and Distribution
57-601-X	Energy Statistics Handbook

Selected CANSIM tables from Statistics Canada

153-0001	Value of established natural gas reserves
153-0002	Value of established crude oil reserves
153-0013	Established crude oil reserves
153-0014	Established natural gas reserves

Selected surveys from Statistics Canada

2178	Oil and Gas Extraction
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Statistical tables

Table 1
Principal statistics¹, oil and gas extraction, conventional sector

	Establishments	Producing activity			
	number	Cost of electricity	Cost of materials and supplies and fuel	Value of marketable production	Value Added
			thousands of dollars		
1991	674	383,096	1,504,989	16,092,573	14,204,488
1992	634	418,896	1,445,037	16,992,802	15,128,869
1993	626	477,458	1,464,121	19,058,705	17,117,126
1994	671	513,980	1,547,755	21,871,403	19,809,668
1995	728	545,102	1,596,515	20,817,680	18,676,063
1996	703	584,824	1,672,073	26,707,674	24,450,777
1997	711	..	..	27,183,922	..
1998	761	..	..	22,628,989	..
1999	756	..	..	30,632,888	..
2000	738	..	..	55,967,429	..
2001					
Newfoundland and Labrador	0	..	..	0	..
Prince Edward Island	2	..	..	0	..
Nova Scotia	2	..	..	0	..
New Brunswick	5	..	..	0	..
Quebec	1	..	..	0	..
Ontario	10	..	..	137,608	..
Manitoba	24	..	..	138,166	..
Saskatchewan	159	..	..	4,994,193	..
Alberta	344	..	..	41,439,255	..
British Columbia	105	..	..	5,756,897	..
Nunavut	0	..	..	0	..
Northwest Territories	25	..	..	544,897	..
Yukon	5	..	..	98,081	..
Arctic Islands	0	..	..	0	..
Offshore					
Newfoundland	9	..	..	2,038,204	..
Nova Scotia	18	..	..	1,125,519	..
West	0	..	..	0	..
Total	709	..	..	56,272,820	..
2002					
Newfoundland and Labrador	0	..	..	0	..
Prince Edward Island	1	..	..	0	..
Nova Scotia	2	..	..	0	..
New Brunswick	3	..	..	0	..
Quebec	2	..	..	0	..
Ontario	9	..	..	97,707	..
Manitoba	24	..	..	149,791	..
Saskatchewan	161	..	..	5,572,256	..
Alberta	333	..	..	32,621,954	..
British Columbia	103	..	..	4,451,117	..
Nunavut	0	..	..	0	..
Northwest Territories	22	..	..	471,251	..
Yukon	6	..	..	41,205	..
Arctic Islands	0	..	..	0	..
Offshore					
Newfoundland	12	..	..	4,079,812	..
Nova Scotia	19	..	..	1,028,515	..
West	0	..	..	0	..
Total	697	..	..	48,513,608	..
Percentage change					
2002 and 2001	-1.7	..	..	-13.8	..
2001 and 2000	-3.9	..	..	+0.5	..

1. Excludes establishments engaged in the non-conventional sector. See text table 3.

Table 2
Drilling completions

	Oil				Gas			
	2001		2002		2001		2002	
	number	metres	number	metres	number	metres	number	metres
Canada								
Exploratory wells ¹	619	815,285	528	709,980	2,713	3,592,046	2,088	2,650,778
Development wells	3,450	4,646,281	2,853	3,718,210	8,043	6,942,947	6,970	6,037,073
Other ²	663	659,152	938	979,703	1	504	3	1,416
Total	4,732	6,120,718	4,319	5,407,893	10,757	10,535,497	9,061	8,689,267
Eastern Canada								
Exploratory wells ¹	3	7,562	0	0	20	26,307	21	21,035
Development wells	30	80,072	15	45,723	44	41,440	29	20,735
Other ²	0	0	0	0	0	0	0	0
Total	33	87,634	15	45,723	64	67,747	50	41,770
Offshore Newfoundland								
Exploratory wells ¹	0	0	0	0	0	0	0	0
Development wells	9	38,569	4	24,350	0	0	0	0
Other ²	0	0	0	0	0	0	0	0
Total	9	38,569	4	24,350	0	0	0	0
Offshore Nova Scotia								
Exploratory wells ¹	0	0	0	0	3	13,584	2	11,201
Development wells	0	0	0	0	2	9,556	0	0
Other ²	0	0	0	0	0	0	0	0
Total	0	0	0	0	5	23,140	2	11,201
Newfoundland and Labrador								
Exploratory wells ¹	0	0	0	0	0	0	0	0
Development wells	0	0	0	0	0	0	1	3,482
Other ²	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	3,482
Prince Edward Island								
Exploratory wells ¹	0	0	0	0	1	3,681	0	0
Development wells	0	0	0	0	0	0	0	0
Other ²	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	3,681	0	0
Nova Scotia								
Exploratory wells ¹	0	0	0	0	0	0	0	0
Development wells	0	0	0	0	0	0	0	0
Other ²	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
New Brunswick								
Exploratory wells ¹	0	0	0	0	0	0	0	0
Development wells	0	0	0	0	2	6,408	2	5,656
Other ²	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	6,408	2	5,656
Quebec								
Exploratory wells ¹	0	0	0	0	0	0	0	0
Development wells	0	0	0	0	0	0	0	0
Other ²	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Ontario								
Exploratory wells ¹	3	7,562	0	0	16	9,042	19	9,834
Development wells	21	41,503	11	21,373	40	25,476	26	11,597
Other ²	0	0	0	0	0	0	0	0
Total	24	49,065	11	21,373	56	34,518	45	21,431
Western Canada								
Exploratory wells ¹	616	807,723	528	709,980	2,693	3,565,739	2,067	2,629,743
Development wells	3,420	4,566,209	2,838	3,672,487	7,999	6,901,507	6,941	6,016,338
Other ²	663	659,152	938	979,703	1	504	3	1,416
Total	4,699	6,033,084	4,304	5,362,170	10,693	10,467,750	9,011	8,647,497

See footnotes at the end of the table.

Table 2 – continued
Drilling completions

	Oil				Gas			
	2001		2002		2001		2002	
	number	metres	number	metres	number	metres	number	metres
Manitoba								
Exploratory wells ¹	3	2,585	7	6,244	0	0	0	0
Development wells	70	76,987	70	80,779	0	0	0	0
Other ²	0	0	0	0	0	0	0	0
Total	73	79,572	77	87,023	0	0	0	0
Saskatchewan								
Exploratory wells ¹	294	294,181	193	201,203	220	152,275	305	172,988
Development wells	1,660	2,111,847	1,296	1,533,435	1,152	697,085	1,408	811,126
Other ²	0	0	0	0	0	0	0	0
Total	1,954	2,406,028	1,489	1,734,638	1,372	849,360	1,713	984,114
Alberta								
Exploratory wells ¹	311	498,000	324	496,805	2,262	3,013,725	1,623	2,210,260
Development wells	1,584	2,225,521	1,383	1,936,305	6,526	5,698,776	5,323	4,830,909
Other ²	663	659,152	938	979,703	1	504	3	1,416
Total	2,558	3,382,673	2,645	3,412,813	8,789	8,713,005	6,949	7,042,585
British Columbia								
Exploratory wells ¹	8	12,957	4	5,728	209	394,857	137	241,455
Development wells	103	149,742	86	117,042	321	505,646	207	364,388
Other ²	0	0	0	0	0	0	0	0
Total	111	162,699	90	122,770	530	900,503	344	605,843
Northwest Territories								
Exploratory wells ¹	0	0	0	0	2	4,882	2	5,040
Development wells	3	2,112	3	4,926	0	0	3	9,915
Other ²	0	0	0	0	0	0	0	0
Total	3	2,112	3	4,926	2	4,882	5	14,955

See footnotes at the end of the table.

Table 2 – continued
Drilling completions

	Abandoned and suspended				Total			
	2001		2002		2001		2002	
	number	metres	number	metres	number	metres	number	metres
Canada								
Exploratory wells ¹	1,685	2,208,580	1,428	2,064,156	5,017	6,615,911	4,044	5,424,914
Development wells	1,092	1,394,509	871	1,038,758	12,585	12,983,737	10,694	10,794,041
Other ²	34	19,787	1	433	2,150	1,289,673	2,444	1,549,857
Total	2,811	3,622,876	2,300	3,103,347	19,752	20,889,321	17,182	17,768,812
Eastern Canada								
Exploratory wells ¹	27	32,704	14	27,199	50	66,573	35	48,234
Development wells	15	10,149	14	16,387	89	131,661	58	82,845
Other ²	0	0	0	0	6	22,418	9	27,897
Total	42	42,853	28	43,586	145	220,652	102	158,976
Offshore Newfoundland								
Exploratory wells ¹	0	0	1	3,100	0	0	1	3,100
Development wells	0	0	0	0	9	38,569	4	24,350
Other ²	0	0	0	0	4	21,987	5	22,912
Total	0	0	1	3,100	13	60,556	10	50,362
Offshore Nova Scotia								
Exploratory wells ¹	0	0	3	14,250	3	13,584	5	25,451
Development wells	0	0	0	0	2	9,556	0	0
Other ²	0	0	0	0	0	0	0	0
Total	0	0	3	14,250	5	23,140	5	25,451
Newfoundland and Labrador								
Exploratory wells ¹	0	0	0	0	0	0	0	0
Development wells	0	0	0	0	0	0	1	3,482
Other ²	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	3,482
Prince Edward Island								
Exploratory wells ¹	1	1,067	0	0	2	4,748	0	0
Development wells	0	0	0	0	0	0	0	0
Other ²	0	0	0	0	0	0	0	0
Total	1	1,067	0	0	2	4,748	0	0
Nova Scotia								
Exploratory wells ¹	2	3,500	0	0	2	3,500	0	0
Development wells	0	0	0	0	0	0	0	0
Other ²	0	0	0	0	0	0	0	0
Total	2	3,500	0	0	2	3,500	0	0
New Brunswick								
Exploratory wells ¹	4	8,965	2	4,623	4	8,965	2	4,623
Development wells	0	0	0	0	2	6,408	2	5,656
Other ²	0	0	0	0	0	0	0	0
Total	4	8,965	2	4,623	6	15,373	4	10,279
Quebec								
Exploratory wells ¹	0	0	0	0	0	0	0	0
Development wells	0	0	0	0	0	0	0	0
Other ²	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Ontario								
Exploratory wells ¹	20	19,172	8	5,226	39	35,776	27	15,060
Development wells	15	10,149	14	16,387	76	77,128	51	49,357
Other ²	0	0	0	0	2	431	4	4,985
Total	35	29,321	22	21,613	117	113,335	82	69,402
Western Canada								
Exploratory wells ¹	1,658	2,175,876	1,414	2,036,957	4,967	6,549,338	4,009	5,376,680
Development wells	1,077	1,384,360	857	1,022,371	12,496	12,852,076	10,636	10,711,196
Other ²	34	19,787	1	433	2,144	1,267,255	2,435	1,521,960
Total	2,769	3,580,023	2,272	3,059,761	19,607	20,668,669	17,080	17,609,836

See footnotes at the end of the table.

Table 2 – continued
Drilling completions

	Abandoned and suspended				Total			
	2001		2002		2001		2002	
	number	metres	number	metres	number	metres	number	metres
Manitoba								
Exploratory wells ¹	11	8,913	4	3,383	14	11,498	11	9,627
Development wells	10	11,217	6	5,218	80	88,204	76	85,997
Other ²	0	0	0	0	21	21,400	10	9,247
Total	21	20,130	10	8,601	115	121,102	97	104,871
Saskatchewan								
Exploratory wells ¹	90	87,023	60	61,069	604	533,479	558	435,260
Development wells	93	93,567	58	54,692	2,905	2,902,499	2,762	2,399,253
Other ²	0	0	0	0	62	84,684	81	103,198
Total	183	180,590	118	115,761	3,571	3,520,662	3,401	2,937,711
Alberta								
Exploratory wells ¹	1,399	1,802,079	1,257	1,789,560	3,972	5,313,804	3,204	4,496,625
Development wells	848	1,059,215	742	878,594	8,958	8,983,512	7,448	7,645,808
Other ²	34	19,787	1	433	2,045	1,138,177	2,337	1,401,084
Total	2,281	2,881,081	2,000	2,668,587	14,975	15,435,493	12,989	13,543,517
British Columbia								
Exploratory wells ¹	152	266,604	91	177,331	369	674,418	232	424,514
Development wells	126	220,361	51	83,867	550	875,749	344	565,297
Other ²	0	0	0	0	15	22,204	4	4,889
Total	278	486,965	142	261,198	934	1,572,371	580	994,700
Northwest Territories								
Exploratory wells ¹	6	11,257	2	5,614	8	16,139	4	10,654
Development wells	0	0	0	0	3	2,112	6	14,841
Other ²	0	0	0	0	1	790	3	3,542
Total	6	11,257	2	5,614	12	19,041	13	29,037

1. Includes new field wildcats, new pool wildcats, deeper pool tests, shallower pool tests and outposts.

2. Includes stratigraphic tests, project wells, bitumen wells, miscellaneous and service wells.

Source(s): Canadian Association of Petroleum Producers.

Table 3-1

Net cash expenditures of the conventional petroleum industry — Net cash expenditures of the conventional petroleum industry, 2001

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta
thousands of dollars									
Exploration									
Geological and geophysical operations	0	0	2,021	1,439	0	2,821	1,612	59,789	839,500
Drilling	0	6,897	0	25,835	26	27,632	4,498	174,090	2,829,784
Land acquisitions and rentals ¹	0	0	0	180	0	3,144	1,571	90,539	1,420,671
Total	0	6,897	2,021	27,454	26	33,597	7,681	324,418	5,089,955
Development									
Drilling	0	0	0	0	0	38,218	30,484	863,279	5,248,333
Production facilities ²	0	0	0	500	0	7,685	9,979	410,680	3,562,853
Enhanced recovery and pressure maintenance	0	0	0	0	0	61	0	35,554	118,059
Natural gas plants	0	0	0	0	0	0	0	24,427	457,666
Non-production facilities	0	0	0	330	0	0	198	2,627	181,570
Total	0	0	0	830	0	45,964	40,661	1,336,567	9,568,481
Operating									
Field and well operations	0	0	0	0	0	14,363	21,190	1,103,610	5,113,339
Natural gas processing plants	0	0	0	0	0	28,048	0	18,185	965,946
Taxes (excluding income tax)	0	0	0	0	0	2,490	3,102	46,297	229,909
Other operating expenses	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	44,901	24,292	1,168,092	6,309,194
Royalties ³	0	0	0	0	0	12,273	23,798	938,179	9,795,206
Total expenditures	0	6,897	2,021	28,284	26	136,735	96,432	3,767,256	30,762,836
	British Columbia	Nunavut	Northwest Territories	Yukon	Arctic Islands	Offshore			
						Newfoundland	Hudson Bay	Nova Scotia	Canada
thousands of dollars									
Exploration									
Geological and geophysical operations	148,803	0	193,808	8,276	0	54,315	0	117,754	1,430,138
Drilling	510,854	0	105,675	0	0	51,839	0	293,870	4,031,000
Land acquisitions and rentals ¹	488,600	0	2,432	9	0	10,797	0	7,546	2,025,489
Total	1,148,257	0	301,915	8,285	0	116,951	0	419,170	7,486,627
Development									
Drilling	1,117,273	0	17,875	0	0	365,202	0	210,490	7,891,154
Production facilities ²	650,669	0	22,396	754	0	500,348	0	121,306	5,287,170
Enhanced recovery and pressure maintenance	4,896	0	0	0	0	30,700	0	0	189,270
Natural gas plants	194,789	0	0	0	0	0	0	17,729	694,611
Non-production facilities	14,119	0	2,303	0	0	43,723	0	2,832	247,702
Total	1,981,746	0	42,574	754	0	939,973	0	352,357	14,309,907
Operating									
Field and well operations	595,526	0	29,532	5,458	0	157,495	0	137,752	7,178,265
Natural gas processing plants	151,690	0	3,363	6,992	0	0	0	30,363	1,204,587
Taxes (excluding income tax)	14,231	0	1,678	110	0	651	0	5,463	303,931
Other operating expenses	0	0	0	0	0	0	0	0	0
Total	761,447	0	34,573	12,560	0	158,146	0	173,578	8,686,783
Royalties ³	1,245,525	0	24,879	18,072	0	30,840	0	10,841	12,099,613
Total expenditures	5,136,975	0	403,941	39,671	0	1,245,910	0	955,946	42,582,930

1. Includes bonuses, legal fees, filing fees, producing and non-producing acreage retention costs, bonuses paid for acquisition of freeholders' mineral rights, relevant land department salaries and overhead.

2. Includes tangible well and lease equipment and pipelines and related facilities.

3. Net of applicable incentive credits; excludes synthetic crude oil royalties.

**Table 3-2
Net cash expenditures of the conventional petroleum industry — 2002**

	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta
thousands of dollars									
Exploration									
Geological and geophysical operations	0	108	146	356	0	2,434	587	34,763	657,595
Drilling	0	0	0	9,647	2,689	12,005	7,801	142,916	1,965,854
Land acquisitions and rentals ¹	0	8	41	10	150	2,443	711	158,509	766,541
Total	0	116	187	10,013	2,839	16,882	9,099	336,188	3,389,990
Development									
Drilling	0	0	0	0	0	25,932	40,509	758,972	4,769,915
Production facilities ²	0	0	0	0	0	12,412	15,599	324,453	2,787,188
Enhanced recovery and pressure maintenance	0	0	0	0	0	74	424	16,146	66,549
Natural gas plants	0	0	0	0	0	0	0	22,179	521,627
Non-production facilities	0	0	0	0	0	0	2	5,047	207,588
Total	0	0	0	0	0	38,418	56,534	1,126,797	8,352,867
Operating									
Field and well operations	0	0	0	0	0	14,198	21,707	1,165,290	5,206,237
Natural gas processing plants	0	0	0	0	0	27,037	3	41,095	1,051,290
Taxes (excluding income tax)	0	0	0	0	0	263	2,796	50,435	282,720
Other operating expenses	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	41,498	24,506	1,256,820	6,540,247
Royalties ³	0	0	0	0	0	13,399	22,404	845,465	6,084,464
Total expenditures	0	116	187	10,013	2,839	110,197	112,543	3,565,270	24,367,568
	British Columbia	Nunavut	Northwest Territories	Yukon	Arctic Islands	Newfoundland	Hudson Bay	Nova Scotia	Canada
thousands of dollars									
Exploration									
Geological and geophysical operations	178,098	0	160,455	226	0	57,752	0	66,584	1,159,104
Drilling	389,142	0	100,527	152	0	124,539	0	310,730	3,066,002
Land acquisitions and rentals ¹	334,666	0	2,563	6	0	14,000	0	477	1,280,125
Total	901,906	0	263,545	384	0	196,291	0	377,791	5,505,231
Development									
Drilling	783,044	0	8,693	7	0	274,657	0	87,988	6,749,717
Production facilities ²	507,759	0	15,665	489	0	619,663	0	276,721	4,559,949
Enhanced recovery and pressure maintenance	5,131	0	0	0	0	38,600	0	0	126,924
Natural gas plants	204,775	0	23,059	0	0	0	0	31,380	803,020
Non-production facilities	17,403	0	9,103	0	0	0	0	1,648	240,791
Total	1,518,112	0	56,520	496	0	932,920	0	397,737	12,480,401
Operating									
Field and well operations	762,317	0	51,416	6,861	0	320,012	0	139,974	7,688,012
Natural gas processing plants	173,880	0	3,417	4,824	0	0	0	51,429	1,352,975
Taxes (excluding income tax)	19,302	0	2,138	114	0	201	0	6,516	364,485
Other operating expenses	0	0	0	0	0	0	0	0	0
Total	955,499	0	56,971	11,799	0	320,213	0	197,919	9,405,472
Royalties ³	905,530	0	17,661	4,090	0	64,741	0	10,222	7,967,976
Total expenditures	4,281,047	0	394,697	16,769	0	1,514,165	0	983,669	35,359,080

1. Includes bonuses, legal fees, filing fees, producing and non-producing acreage retention costs, bonuses paid for acquisition of freeholders' mineral rights, relevant land department salaries and overhead.
2. Includes tangible well and lease equipment and pipelines and related facilities.
3. Net of applicable incentive credits; excludes synthetic crude oil royalties.

Table 4
Marketable production and values

	1999	2000	2001	2002
	thousands of cubic metres			
Crude oil	78 090.4	80 971.4	79 935.6	83 900.4
Synthetic crude oil	18 766.9	18 608.0	20 260.6	25 494.6
Crude bitumen	14 171.1	16 781.0	17 953.9	17 481.6
Condensate	466.3	916.0	1 134.8	1 196.9
Pentanes plus	10 752.7	10 493.1	9 665.6	8 896.3
Propane	10 190.7	10 850.8	10 165.4	8 811.5
Butanes	5 612.5	6 534.5	6 065.3	5 119.3
Ethane	13 001.6	13 157.3	13 090.5	14 932.8
	millions of cubic metres			
Natural gas	162 218.5	167 789.9	171 387.8	172 197.2
	thousands of metric tonnes			
Elemental sulphur	8 213.1	8 284.1	7 835.5	7 384.9
	thousands of dollars			
Crude oil	11,866,541	19,173,763	15,153,811	18,157,229
Synthetic crude oil	3,252,547	5,188,916	4,995,003	6,455,743
Crude bitumen	1,634,435	2,855,634	1,873,762	2,763,700
Condensate	81,651	253,716	287,533	298,315
Pentanes plus	1,863,108	3,040,040	2,601,844	2,281,093
Propane	1,007,691	2,235,898	1,930,190	1,151,165
Butanes	640,082	1,516,602	1,152,061	892,098
Ethane	886,940	1,908,157	1,493,032	1,951,418
Natural gas	14,192,201	27,827,727	33,677,530	23,719,717
Elemental sulphur	94,674	91,071	-23,181	62,573
Total value	35,519,870	64,091,524	63,141,585	57,733,051

Table 5-1
Commodity data, oil and gas extraction — Net production withdrawals

	Canada	Offshore Newfoundland	Offshore Nova Scotia	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Yukon	Northwest Territories
thousands of cubic metres											
Crude oil											
2002	83,900.4	16,587.3	0.0	0.0	218.0	650.8	24,415.9	38,228.7	2,423.7	0.0	1,376.0
2001	79,936.0	8,632.8	0.0	0.0	247.5	642.9	24,750.0	41,735.1	2,495.6	0.0	1,432.1
Synthetic crude oil											
2002	25,494.6	0.0	0.0	0.0	0.0	0.0	0.0	25,494.6	0.0	0.0	0.0
2001	20,260.7	0.0	0.0	0.0	0.0	0.0	0.0	20,260.7	0.0	0.0	0.0
Crude bitumen											
2002	17,481.6	0.0	0.0	0.0	0.0	0.0	0.0	17,481.6	0.0	0.0	0.0
2001	17,953.9	0.0	0.0	0.0	0.0	0.0	0.0	17,953.9	0.0	0.0	0.0
Condensate											
2002	1 196.9	0.0	629.0	0.0	0.0	0.0	0.0	448.1	119.8	0.0	0.0
2001	1,134.8	0.0	564.0	0.0	0.0	0.0	0.0	464.0	106.8	0.0	0.0
Pentanes plus											
2002	8,896.3	0.0	0.0	0.0	0.0	0.0	32.3	8,232.1	543.8	0.0	88.1
2001	9,665.6	0.0	0.0	0.0	0.0	0.0	36.8	8,950.8	586.0	0.0	92.0
Propane											
2002	8,811.5	0.0	246.4	0.0	0.0	0.0	38.2	8,149.9	377.0	0.0	0.0
2001	10,269.7	0.0	191.0	0.0	0.0	0.0	41.7	9,575.8	461.2	0.0	0.0
Butanes											
2002	5,119.3	0.0	160.0	0.0	0.0	0.0	21.5	4,629.2	308.6	0.0	0.0
2001	6,115.8	0.0	134.6	0.0	0.0	0.0	20.0	5,614.6	346.6	0.0	0.0
Ethane¹											
2002	14,932.8	0.0	0.0	0.0	0.0	0.0	0.0	13,746.8	1,186.0	0.0	0.0
2001	13,090.5	0.0	0.0	0.0	0.0	0.0	0.0	12,105.9	984.6	0.0	0.0
millions of cubic metres											
Natural gas											
2002	205,823.6	235.1	5,471.3	0.0	369.6	0.0	7,839.3	159,028.1	31,319.9	368.1	1,192.2
2001	204,572.2	153.7	5,371.9	0.0	354.9	0.0	7,794.0	160,164.1	28,789.4	475.1	1,469.1
thousands of metric tonnes											
Elemental sulphur											
2002	7,384.9	0.0	0.0	0.0	0.0	0.0	0.0	6,533.1	851.8	0.0	0.0
2001	7,835.5	0.0	0.0	0.0	0.0	0.0	0.0	6,931.2	904.3	0.0	0.0

1. Estimated before solvent flood.

Table 5-2
Commodity data, oil and gas extraction — Marketable production

	Canada	Offshore Newfoundland	Offshore Nova Scotia	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Yukon	Northwest Territories
thousands of cubic metres											
Crude oil	83,900.4	16,587.3	0.0	0.0	218.0	650.8	24,415.9 ²	38,228.7	2,423.7	0.0	1,376.0
Synthetic crude oil	25,494.6	0.0	0.0	0.0	0.0	0.0	0.0	25,494.6	0.0	0.0	0.0
Crude bitumen	17,481.6	0.0	0.0	0.0	0.0	0.0	0.0	17,481.6	0.0	0.0	0.0
Condensate	1,196.9	0.0	629.0	0.0	0.0	0.0	0.0	448.1	119.8	0.0	0.0
Pentanes plus	8,896.3	0.0	0.0	0.0	0.0	0.0	32.3	8,232.1	543.8	0.0	88.1
Propane	8,811.5	0.0	246.4	0.0	0.0	0.0	38.2	8,149.9	377.0	0.0	0.0
Butanes	5,119.3	0.0	160.0	0.0	0.0	0.0	21.5	4,629.2	308.6	0.0	0.0
Ethane ¹	14,932.8	0.0	0.0	0.0	0.0	0.0	0.0	13,746.8	1,186.0	0.0	0.0
millions of cubic metres											
Natural gas	172,197.2	0.0	5,209.3	0.0	369.6	0.0	6,303.2	131,329.8	27,785.3	287.3	912.7
thousands cubic tonnes											
Elemental sulphur	7,384.9	0.0	0.0	0.0	0.0	0.0	0.0	6,533.1	851.8	0.0	0.0
thousands of dollars											
Crude oil	18,157,229	4,079,812	0	0	46,151	149,791	4,680,769 ³	8,319,762	551,254	0	329,690
Synthetic crude oil	6,455,743	0	0	0	0	0	0	6,455,743	0	0	0
Crude bitumen	2,763,700	0	0	0	0	0	0	2,763,700	0	0	0
Condensate	298,315	0	156,105	0	0	0	0	115,931	26,279	0	0
Pentanes plus	2,281,093	0	0	0	0	0	8,055	2,123,623	128,522	0	20,893
Propane	1,151,165	0	32,278	0	0	0	4,613	1,065,008	49,266	0	0
Butanes	892,098	0	34,722	0	0	0	3,975	800,066	53,335	0	0
Ethane ¹	1,951,418	0	0	0	0	0	0	1,796,432	154,986	0	0
Natural gas	23,719,717	0	805,410	0	51,556	0	874,844	18,340,646	3,485,388	41,205	120,668
Elemental sulphur	62,573	0	0	0	0	0	0	60,486	2,087	0	0
Total value in dollars	57,733,051	4,079,812	1,028,515	0	97,707	149,791	5,572,256	41,841,397	4,451,117	41,205	471,251

1. Estimated before solvent flood.
2. Excludes volume of upgraded crude oil.
3. Excludes value of upgraded crude oil. See table 10.

Table 5-3
Commodity data, oil and gas extraction — Shipments

	Canada	Offshore Newfoundland	Offshore Nova Scotia	Quebec	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia	Yukon	Northwest Territories
thousands of cubic metres											
Crude oil	83,900.4	16,587.3	0.0	0.0	218.0	650.8	24,415.9 ²	38,228.7	2,423.7	0.0	1,376.0
Synthetic crude oil	25,494.6	0.0	0.0	0.0	0.0	0.0	0.0	25,494.6	0.0	0.0	0.0
Crude bitumen	17,481.6	0.0	0.0	0.0	0.0	0.0	0.0	17,481.6	0.0	0.0	0.0
Condensate	1,196.9	0.0	629.0	0.0	0.0	0.0	0.0	448.1	119.8	0.0	0.0
Pentanes plus	8,896.3	0.0	0.0	0.0	0.0	0.0	32.3	8,232.1	543.8	0.0	88.1
Propane	8,811.5	0.0	246.4	0.0	0.0	0.0	38.2	8,149.9	377.0	0.0	0.0
Butanes	5,119.3	0.0	160.0	0.0	0.0	0.0	21.5	4,629.2	308.6	0.0	0.0
Ethane ¹	14,932.8	0.0	0.0	0.0	0.0	0.0	0.0	13,746.8	1,186.0	0.0	0.0
millions of cubic metres											
Natural gas	172,197.2	0.0	5,209.3	0.0	369.6	0.0	6,303.2	131,329.8	27,785.3	287.3	912.7
thousands of metric tonnes											
Elemental sulphur	6,168.8	0.0	0.0	0.0	0.0	0.0	0.0	5,317.0	851.8	0.0	0.0
thousands of dollars											
Crude oil	18,157,229	4,079,812	0	0	46,151	149,791	4,680,769 ³	8,319,762	551,254	0	329,690
Synthetic crude oil	6,455,743	0	0	0	0	0	0	6,455,743	0	0	0
Crude bitumen	2,763,700	0	0	0	0	0	0	2,763,700	0	0	0
Condensate	298,315	0	156,105	0	0	0	0	115,931	26,279	0	0
Pentanes plus	2,281,093	0	0	0	0	0	8,055	2,123,623	128,522	0	20,893
Propane	1,151,165	0	32,278	0	0	0	4,613	1,065,008	49,266	0	0
Butanes	892,098	0	34,722	0	0	0	3,975	800,066	53,335	0	0
Ethane ¹	1,951,418	0	0	0	0	0	0	1,796,432	154,986	0	0
Natural gas	23,719,717	0	805,410	0	51,556	0	874,844	18,340,646	3,485,388	41,205	120,668
Elemental sulphur	51,313	0	0	0	0	0	0	49,226	2,087	0	0
Total value in dollars	57,721,791	4,079,812	1,028,515	0	97,707	149,791	5,572,256	41,830,137	4,451,117	41,205	471,251

1. Estimated before solvent flood.
2. Excludes volume of upgraded crude oil.
3. Excludes value of upgraded crude oil. See table 10.

Table 6
Conventional crude oil and equivalent and marketable natural gas remaining established reserves in Canada, 2002

	Canada	Eastcoast ¹ offshore	Arctic ² Islands	Mackenzie ² Delta-Beaufort Sea	Mainland ² territories	Eastern Canada
thousands of cubic metres						
Conventional crude oil						
Remaining reserves at the 31 st of December, 2001	740,096	151,003	0	53,950	10,363	0
Positive revisions	0	0	0	0	0	0
Negative revisions	0	0	0	0	0	0
Extensions	0	0	0	0	0	0
Gross additions	58,867	0	0	0	0	0
Total crude oil	798,963	151,003	0	53,950	10,363	0
2002 net production ³	84,986	16,588	0	0	1,375	0
Remaining reserves at the 31 st of December, 2002	713,977	134,415	0	53,950	8,988	0
Net change in reserves during 2002	-26,119	-16,588	0	0	-1,375	0
Pentanes plus						
Remaining reserves at 31 st of December, 2001	89,601	10,556	0	0	2,910	0
Positive revisions	0	0	0	0	0	0
Negative revisions	0	0	0	0	0	0
Extensions	0	0	0	0	0	0
Gross additions	2,955	0	0	0	0	0
Total pentanes plus	92,556	10,556	0	0	2,910	0
2002 net production ³	10,209	148	0	0	62	0
Remaining reserves at 31 st of December, 2000	82,347	10,408	0	0	2,848	0
Net change in reserves during 2002	-7,254	-148	0	0	-62	0
Total remaining conventional crude oil and equivalent reserves	796,324	144,823	0	53,950	11,836	0
millions of cubic metres						
Marketable natural gas						
Remaining reserves at 31 st of December, 2001	1,693,752	61,695	0	0	15,026	105
Positive revisions	0	0	0	0	0	0
Negative revisions	0	0	0	0	0	0
Extensions	0	0	0	0	0	0
Gross additions	150,620	0	0	0	-1,400	0
Total marketable natural gas	1,844,372	61,695	0	0	13,626	105
Net change in underground storage	0	0	0	0	0	0
2002 net production ^{3,4}	180,167	5,542	0	0	970	0
Remaining reserves at 31 st of December, 2002	1,664,205	56,153	0	0	12,656	105
Non-associated	1,420,996	56,153	0	0	11,467	105
Associated	243,209	0	0	0	1,189	0
Dissolved	0	0	0	0	0	0
Underground storage	0	0	0	0	0	0
Net change in reserves during 2002	-29,547	-5,542	0	0	-2,370	0

See footnotes at the end of the table.

Table 6 – continued

Conventional crude oil and equivalent and marketable natural gas remaining established reserves in Canada, 2002

	Ontario	Manitoba	Saskat- chewan	Alberta	British Columbia
thousands of cubic metres					
Conventional crude oil					
Remaining reserves at the 31 st of December, 2001	1,853	3,969	184,894	309,388	24,676
Positive revisions	0	0	0	0	0
Negative revisions	0	0	0	0	0
Extensions	0	0	0	0	0
Gross additions	162	110	24,076	34,490	29
Total crude oil	2,015	4,079	208,970	343,878	24,705
2002 net production ³	218	650	25,101	38,654	2,400
Remaining reserves at the 31 st of December, 2002	1,797	3,429	183,869	305,224	22,305
Net change in reserves during 2002	-56	-540	-1,025	-4,164	-2,371
Pentanes plus					
Remaining reserves at 31 st of December, 2001	0	0	265	70,194	5,676
Positive revisions	0	0	0	0	0
Negative revisions	0	0	0	0	0
Extensions	0	0	0	0	0
Gross additions	0	0	73	2,096	786
Total pentanes plus	0	0	338	72,290	6,462
2002 net production ³	0	0	43	9,390	566
Remaining reserves at 31 st of December, 2002	0	0	295	62,900	5,896
Net change in reserves during 2002	0	0	30	-7,294	220
Total remaining conventional crude oil and equivalent reserves	1,797	3,429	184,164	368,124	28,201
millions of cubic metres					
Marketable natural gas					
Remaining reserves at 31 st of December, 2001	11,513	0	81,730	1,272,232	251,451
Positive revisions	0	0	0	0	0
Negative revisions	0	0	0	0	0
Extensions	0	0	0	0	0
Gross additions	276	0	1,353	119,155	31,236
Total marketable natural gas	11,789	0	83,083	1,391,387	282,687
Net change in underground storage	0	0	0	0	0
2002 net production ^{3, 4}	370	0	6,434	138,825	28,026
Remaining reserves at 31 st of December, 2002	11,419	0	76,649	1,252,562	254,661
Non-associated	11,419	0	74,391	1,025,435	242,026
Associated	0	0	2,258	227,127	12,635
Dissolved	0	0	0	0	0
Underground storage	0	0	0	0	0
Net change in reserves during 2002	-94	0	-5,081	-19,670	3,210

1. Crude oil reserves were booked for the eastcoast offshore for the first time in year-end 1981 reserves.

2. As with all other areas, reserves for frontier areas are carried in accordance with the definition of established reserves. However, reserves for frontier areas are only shown when a threshold volume has been determined to exist.

3. Preliminary estimate.

4. Before re-processing plant operations.

Source(s): Canadian Association of Petroleum Producers. (Excludes oil sands reserves, see text table 2).

Table 7-1
Supply and disposition of crude oil and equivalent by source, Canada — 2001

	Offshore Newfoundland	Offshore Nova Scotia	Ontario	Manitoba	Saskat. ¹ chewan	Alberta
thousands of cubic metres						
Supply:						
Domestic production						
Crude oil						
Light and medium	8,632.8	0.0	247.5	642.9	5,432.1	27,846.8
Heavy	0.0	0.0	0.0	0.0	19,317.9	13,888.3
Synthetic crude oil	0.0	0.0	0.0	0.0	0.0	20,260.7
Crude bitumen	0.0	0.0	0.0	0.0	0.0	17,953.9
Less returned to formation	0.0	0.0	0.0	0.0	0.0	0.0
Total	8,632.8	0.0	247.5	642.9	24,750.0	79,949.7
Condensate	0.0	564.0	0.0	0.0	0.0	464.0
Pentanes plus	0.0	0.0	0.0	0.0	36.8	8,950.8
Net withdrawals	8,632.8	564.0	247.5	642.9	24,786.8	89,364.5
Imports	...	...	...	...	...	...
Total supply	8,632.8	564.0	247.5	642.9	24,786.8	89,364.5
Disposition:						
Deliveries to refineries						
Atlantic provinces	2,183.7	0.0	0.0	0.0	0.0	0.0
Quebec	618.7	0.0	0.0	0.0	0.0	0.0
Ontario	2,959.1	45.7	247.5	126.3	4,206.6	6,928.2
Manitoba	0.0	0.0	0.0	0.0	0.0	0.0
Saskatchewan	0.0	0.0	0.0	0.0	2,121.6	1,582.5
Alberta	0.0	0.0	0.0	0.0	437.8	20,919.5
British Columbia	0.0	0.0	0.0	0.0	0.0	2,605.3
Northwest Territories	0.0	0.0	0.0	0.0	0.0	0.0
Total	5,761.5	45.7	247.5	126.3	6,766.0	32,035.5
Export to United States						
Petroleum administration						
East Coast	2,761.2	103.2	0.0	55.5	840.9	2,602.6
Midwest	0.0	0.0	0.0	320.2	16,575.8	32,924.2
Gulf Coast	82.4	264.6	0.0	0.0	0.0	0.0
Rocky Mountains	0.0	0.0	0.0	0.0	248.4	17,863.0
West Coast	0.0	0.0	0.0	0.0	0.0	4,572.7
Total United States	2,843.6	367.8	0.0	375.7	17,665.1	57,962.5
Other countries	0.0	0.0	0.0	0.0	0.0	269.9
Total exports	2,843.6	367.8	0.0	375.7	17,665.1	58,232.4
Net inventory changes	27.7	150.5	0.0	181.4	-209.6	511.7
Deliveries to other purchasers	0.0	0.0	0.0	0.0	0.0	295.7
Losses and adjustments	0.0	0.0	0.0	-40.5	565.3	-1,710.8
Total disposition	8,632.8	564.0	247.5	642.9	24,786.8	89,364.5

See footnotes at the end of the table.

Table 7-1 – continued

Supply and disposition of crude oil and equivalent by source, Canada — 2001

	British Columbia	Northwest Territories	Total Canadian sources	Total foreign sources	Total all sources
thousands of cubic metres					
Supply:					
Domestic production					
Crude oil	2,495.6	1,432.1	46,729.8	0.0	46,729.8
Light and medium	0.0	0.0	33,206.2	0.0	33,206.2
Heavy	0.0	0.0	20,260.7	0.0	20,260.7
Synthetic crude oil	0.0	0.0	17,953.9	0.0	17,953.9
Crude bitumen	0.0	0.0	0.0	0.0	0.0
Less returned to formation	2,495.6	1,432.1	118,150.6	0.0	118,150.6
Total					
Condensate	106.8	0.0	1,134.8	0.0	1,134.8
Pentanes plus	586.0	92.0	9,665.6	0.0	9,665.6
Net withdrawals	3,188.4	1,524.1	128,951.0	0.0	128,951.0
Imports	...	...	...	53,517.4	53,517.4
Total supply	3,188.4	1,524.1	128,951.0	53,517.4	182,468.4
Disposition:					
Deliveries to refineries	0.0	0.0	2,183.7	21,031.0	23,214.7
Atlantic provinces	0.0	0.0	618.7	20,863.9	21,482.6
Quebec	0.0	1,526.8	16,040.2	11,622.5	27,662.7
Ontario	0.0	0.0	0.0	0.0	0.0
Manitoba	0.0	0.0	3,704.1	0.0	3,704.1
Saskatchewan	2,247.4	0.0	23,604.7	0.0	23,604.7
Alberta	802.1	0.0	3,407.4	0.0	3,407.4
British Columbia	0.0	0.0	0.0	0.0	0.0
Northwest Territories	3,049.5	1,526.8	49,558.8	53,517.4	103,076.2
Total					
Export to United States					
Petroleum administration	0.0	0.0	6,363.4	0.0	6,363.4
East Coast	74.9	0.0	49,895.1	0.0	49,895.1
Midwest	0.0	0.0	347.0	0.0	347.0
Gulf Coast	0.0	0.0	18,111.4	0.0	18,111.4
Rocky Mountains	11.7	0.0	4,584.4	0.0	4,584.4
West Coast	86.6	0.0	79,301.3	0.0	79,301.3
Total United States					
Other countries	0.0	0.0	269.9	0.0	269.9
Total exports	86.6	0.0	79,571.2	0.0	79,571.2
Net inventory changes	0.5	-1.8	660.4	11.9	672.3
Deliveries to other purchasers	0.0	0.0	295.7	0.0	295.7
Losses and adjustments	51.8	-0.9	-1,135.1	-11.9	-1,147.0
Total disposition	3,188.4	1,524.1	128,951.0	53,517.4	182,468.4

1. Total supply excludes volume of upgraded crude oil.

Note(s): This table is not restricted to NAICS 211; it includes certain statistics of Petroleum refineries (NAICS 324) and of Oil Pipeline Transport (NAICS 4861).

Table 7-2
Supply and disposition of crude oil and equivalent by source, Canada — 2002

	Offshore Newfoundland	Offshore Nova Scotia	Ontario	Manitoba	Saskat. ¹ chewan	Alberta
thousands of cubic metres						
Supply						
Domestic production:						
Crude oil						
Light and medium	16,587.3	0.0	218.0	650.8	5,138.3	25,377.2
Heavy	0.0	0.0	0.0	0.0	19,277.6	12,851.5
Synthetic crude oil	0.0	0.0	0.0	0.0	0.0	25,494.6
Crude bitumen	0.0	0.0	0.0	0.0	0.0	17,481.6
Less returned to formation	0.0	0.0	0.0	0.0	0.0	0.0
Total	16,587.3	0.0	218.0	650.8	24,415.9	81,204.9
Condensate	0.0	629.0	0.0	0.0	0.0	448.1
Pentanes plus	0.0	0.0	0.0	0.0	32.3	8,232.1
Net withdrawals	16,587.3	629.0	218.0	650.8	24,448.2	89,885.1
Imports	...	...	...	...	...	...
Total supply	16,587.3	629.0	218.0	650.8	24,448.2	89,885.1
Disposition						
Deliveries to refineries:						
Atlantic provinces	2,943.3	0.0	0.0	0.0	0.0	0.0
Quebec	1,529.4	0.0	0.0	0.0	0.0	0.0
Ontario	2,949.9	50.6	218.0	147.7	3,670.6	8,944.2
Manitoba	0.0	0.0	0.0	0.0	0.0	0.0
Saskatchewan	0.0	0.0	0.0	0.0	1,959.2	1,607.5
Alberta	0.0	0.0	0.0	0.0	500.4	22,230.9
British Columbia	0.0	0.0	0.0	0.0	0.0	2,082.7
Northwest Territories	0.0	0.0	0.0	0.0	0.0	0.0
Total	7,422.6	50.6	218.0	147.7	6,130.2	34,865.3
Export to United States						
Petroleum administration						
East Coast	5,684.6	103.3	0.0	0.0	1,006.2	2,292.8
Midwest	0.0	0.0	0.0	591.1	16,182.7	32,870.9
Gulf Coast	3,327.5	394.3	0.0	0.0	0.0	300.2
Rocky Mountains	0.0	0.0	0.0	0.0	311.5	18,341.6
West Coast	0.0	0.0	0.0	0.0	0.0	3,197.5
Total United States	9,012.1	497.6	0.0	591.1	17,500.4	57,003.0
Other countries	0.0	0.0	0.0	0.0	0.0	154.8
Total exports	9,012.1	497.6	0.0	591.1	17,500.4	57,157.8
Net inventory changes	152.6	80.8	0.0	9.6	36.7	227.0
Deliveries to other purchasers	0.0	0.0	0.0	0.0	0.0	448.0
Losses and adjustments	0.0	0.0	0.0	-97.6	780.9	-2,813.0
Total disposition	16,587.3	629.0	218.0	650.8	24,448.2	89,885.1

See footnotes at the end of the table.

Table 7-2 – continued

Supply and disposition of crude oil and equivalent by source, Canada — 2002

	British Columbia	Northwest Territories	Total Canadian sources	Total foreign sources	Total all sources
thousands of cubic metres					
Supply					
Domestic production:					
Crude oil					
Light and medium	2,423.7	1,376.0	51,771.3	0.0	51,771.3
Heavy	0.0	0.0	32,129.1	0.0	32,129.1
Synthetic crude oil	0.0	0.0	25,494.6	0.0	25,494.6
Crude bitumen	0.0	0.0	17,481.6	0.0	17,481.6
Less returned to formation	0.0	0.0	0.0	0.0	0.0
Total	2,423.7	1,376.0	126,876.6	0.0	126,876.6
Condensate	119.8	0.0	1,196.9	0.0	1,196.9
Pentanes plus	543.8	88.1	8,896.3	0.0	8,896.3
Net withdrawals	3,087.3	1,464.1	136,969.8	0.0	136,969.8
Imports	...	...	...	51,073.4	51,073.4
Total supply	3,087.3	1,464.1	136,969.8	51,073.4	188,043.2
Disposition					
Deliveries to refineries:					
Atlantic provinces	0.0	0.0	2,943.3	20,185.0	23,128.3
Quebec	0.0	0.0	1,529.4	21,331.8	22,861.2
Ontario	0.0	1,462.2	17,443.2	9,556.6	26,999.8
Manitoba	0.0	0.0	0.0	0.0	0.0
Saskatchewan	0.0	0.0	3,566.7	0.0	3,566.7
Alberta	1,710.8	0.0	24,442.1	0.0	24,442.1
British Columbia	1,092.5	0.0	3,175.2	0.0	3,175.2
Northwest Territories	0.0	0.0	0.0	0.0	0.0
Total	2,803.3	1,462.2	53,099.9	51,073.4	104,173.3
Export to United States					
Petroleum administration					
East Coast	0.0	0.0	9,086.9	0.0	9,086.9
Midwest	158.0	0.0	49,802.7	0.0	49,802.7
Gulf Coast	0.0	0.0	4,022.0	0.0	4,022.0
Rocky Mountains	0.0	0.0	18,653.1	0.0	18,653.1
West Coast	0.0	0.0	3,197.5	0.0	3,197.5
Total United States	158.0	0.0	84,762.2	0.0	84,762.2
Other countries	0.0	0.0	154.8	0.0	154.8
Total exports	158.0	0.0	84,917.0	0.0	84,917.0
Net inventory changes	5.9	1.8	514.4	-12.1	502.3
Deliveries to other purchasers	0.0	0.0	448.0	0.0	448.0
Losses and adjustments	120.1	0.1	-2,009.5	12.1	-1,997.4
Total disposition	3,087.3	1,464.1	136,969.8	51,073.4	188,043.2

1. Total supply excludes volume of upgraded crude oil.

Note(s): This table is not restricted to NAICS 211; it includes certain statistics of Petroleum refineries (NAICS 324) and of Oil Pipeline Transport (NAICS 4861).

Table 8-1
Supply and disposition of natural gas, by source, Canada — 2001

	Newfoundland and Labrador	Nova Scotia	Ontario	Saskat- chewan	Alberta	British Columbia
millions of cubic metres at 101.325 kPa and 15°C.						
Field and processing plants						
Supply						
Gross new production	2,596.3	5,375.5	354.9	8,330.0	174,094.2	28,919.8
Less field flared and waste	88.5	3.6	0.0	536.0	1,387.2	130.4
Net new production	2,507.8	5,371.9	354.9	7,794.0	172,707.0	28,789.4
Reproduced	0.0	0.0	0.0	0.0	0.0	0.0
Less injected and stored	2,354.1	0.0	0.0	0.0	12,542.9	0.0
Net withdrawals	153.7	5,371.9	354.9	7,794.0	160,164.1	28,789.4
Disposition						
Field disposition and uses	153.7	11.6	0.0	990.5	3,140.2	842.0
Gathering system disposition and uses	0.0	0.0	0.0	588.2	3,515.6	0.0
Processing plant disposition and uses:						
Processing and re-processing shrinkage	0.0	324.2	0.0	86.0	14,574.0	2,445.6
Other disposition and uses	0.0	9.9	0.0	93.1	4,890.5	743.5
Other uses	0.0	0.0	0.0	0.0	0.0	0.0
Adjustment	0.0	-58.7	0.0	-299.8	1,368.2	-678.5
Deliveries of marketable gas to transport and distribution systems	0.0	5,084.9	354.9	6,336.0	132,675.6	25,436.8
Total disposition	153.7	5,371.9	354.9	7,794.0	160,164.1	28,789.4
Gas utilities						
Supply						
Total marketable gas	0.0	5,084.9	354.9	6,336.0	132,675.6	25,436.8
Receipts from distributor storage	0.0	0.0	0.0	629.4	16,601.5	2,118.4
Imports	0.0	0.0	0.0	0.0	0.0	0.0
Other receipts ¹	0.0	0.0	0.0	0.0	0.0	0.0
Total supply of marketable gas	0.0	5,084.9	354.9	6,965.4	149,277.1	27,555.2
Disposition						
Utility sales (excluding direct sales)						
British Columbia	0.0	0.0	0.0	0.0	519.2	1,748.8
Alberta	0.0	0.0	0.0	0.0	16,824.3	3,808.2
Saskatchewan	0.0	0.0	0.0	1,645.5	0.0	0.0
Manitoba	0.0	0.0	0.0	0.0	1,434.4	0.0
Ontario	0.0	0.0	354.9	2,475.8	6,943.7	1,398.1
Quebec	0.0	0.0	0.0	0.0	5,222.1	0.0
New Brunswick	0.0	0.0	0.0	0.0	0.0	0.0
Northwest Territories	0.0	0.0	0.0	0.0	0.0	0.0
Total utility sales	0.0	0.0	354.9	4,121.3	30,943.7	6,955.1
Exports	0.0	5,104.8	0.0	21.7	91,554.9	11,558.1
Direct sales ^{2, 3}	0.0	42.9	0.0	1,349.6	13,693.4	4,771.8
Delivered to distributor storage	0.0	0.0	0.0	1,112.4	8,552.4	2,992.6
Line pack fluctuation	0.0	-36.6	0.0	-1.2	-115.1	74.5
Pipeline fuel	0.0	0.0	0.0	72.6	4,431.4	748.5
Pipeline losses and unaccounted volumes	0.0	-26.2	0.0	289.0	216.4	454.6
Total disposition of marketable gas	0.0	5,084.9	354.9	6,965.4	149,277.1	27,555.2

See footnotes at the end of the table.

Table 8-1 – continued

Supply and disposition of natural gas, by source, Canada — 2001

	Yukon	Northwest Territories	Total Canadian sources	Total foreign sources	Total all sources
millions of cubic metres at 101.325 kPa and 15°C.					
Field and processing plants					
Supply					
Gross new production	475.2	1,472.8	221,618.7	0.0	221,618.7
Less field flared and waste	0.1	3.7	2,149.5	0.0	2,149.5
Net new production	475.1	1,469.1	219,469.2	0.0	219,469.2
Reproduced	0.0	0.0	0.0	0.0	0.0
Less injected and stored	0.0	0.0	14,897.0	0.0	14,897.0
Net withdrawals	475.1	1,469.1	204,572.2	0.0	204,572.2
Disposition					
Field disposition and uses	0.0	0.0	5,138.0	0.0	5,138.0
Gathering system disposition and uses	0.0	0.0	4,103.8	0.0	4,103.8
Processing plant disposition and uses:					
Processing and re-processing shrinkage	79.0	258.2	17,767.0	0.0	17,767.0
Other disposition and uses	21.4	123.2	5,881.6	0.0	5,881.6
Other uses	0.0	0.0	0.0	0.0	0.0
Adjustment	0.0	0.0	331.2	0.0	331.2
Deliveries of marketable gas to transport and distribution systems	374.7	1,087.7	171,350.6	0.0	171,350.6
Total disposition	475.1	1,469.1	204,572.2	0.0	204,572.2
Gas utilities					
Supply					
Total marketable gas	374.7	1,087.7	171,350.6	0.0	171,350.6
Receipts from distributor storage	0.0	0.0	19,349.3	0.0	19,349.3
Imports	0.0	0.0	0.0	3,910.4	3,910.4
Other receipts ¹	0.0	0.0	0.0	0.0	0.0
Total supply of marketable gas	374.7	1,087.7	190,699.9	3,910.4	194,610.3
Disposition					
Utility sales (excluding direct sales)					
British Columbia	374.7	996.8	3,639.5	0.0	3,639.5
Alberta	0.0	0.0	20,632.5	0.0	20,632.5
Saskatchewan	0.0	0.0	1,645.5	0.0	1,645.5
Manitoba	0.0	0.0	1,434.4	0.0	1,434.4
Ontario	0.0	0.0	11,172.5	3,188.6	14,361.1
Quebec	0.0	0.0	5,222.1	0.0	5,222.1
New Brunswick	0.0	0.0	0.0	0.0	0.0
Northwest Territories	0.0	90.9	90.9	0.0	90.9
Total utility sales	374.7	1,087.7	43,837.4	3,188.6	47,026.0
Exports	0.0	0.0	108,239.5	0.0	108,239.5
Direct sales ^{2, 3}	0.0	0.0	19,857.7	0.0	19,857.7
Delivered to distributor storage	0.0	0.0	12,657.4	721.8	13,379.2
Line pack fluctuation	0.0	0.0	-78.4	0.0	-78.4
Pipeline fuel	0.0	0.0	5,252.5	0.0	5,252.5
Pipeline losses and unaccounted volumes	0.0	0.0	933.8	0.0	933.8
Total disposition of marketable gas	374.7	1,087.7	190,699.9	3,910.4	194,610.3

1. Liquefied petroleum gas for gas enrichment, peak shaving or temporary supply.

2. Direct deliveries for industrial consumption and miscellaneous utility deliveries.

3. Data presented for Alberta as direct sales are intended to represent direct sales volumes actually consumed in the provinces of Saskatchewan, Manitoba, Ontario, and Quebec. Spacing constraints within the table does not allow for the allocation by province.

Note(s): This table is not restricted to NAICS 211; it includes certain statistics of Gas Distribution (NAICS 2212) and of Pipeline Transport (NAICS 4862).

Table 8-2
Supply and disposition of natural gas, by source, Canada — 2002

	Newfoundland and Labrador	Nova Scotia	Ontario	Saskat- chewan	Alberta	British Columbia
millions of cubic metres at 101.325 kPa and 15°C.						
Field and processing plants						
Supply						
Gross new production	3,328.2	5,474.9	369.6	8,278.4	170,019.1	31,431.8
Less field flared and waste	563.8	3.6	0.0	439.1	1,062.6	107.9
Net new production	2,764.4	5,471.3	369.6	7,839.3	168,956.5	31,323.9
Reproduced	0.0	0.0	0.0	0.0	0.0	0.0
Less injected and stored	2,529.3	0.0	0.0	0.0	9,928.4	4.0
Net withdrawals	235.1	5,471.3	369.6	7,839.3	159,028.1	31,319.9
Disposition						
Field disposition and uses	235.1	11.1	0.0	912.1	3,364.4	895.2
Gathering system disposition and uses	0.0	0.0	0.0	371.9	3,647.3	0.0
Processing plant disposition and uses						
Processing and re-processing shrinkage	0.0	404.9	0.0	70.0	15,120.8	2,217.9
Other disposition and uses	0.0	0.0	0.0	83.2	5,192.6	831.5
Other uses	0.0	0.0	0.0	0.0	0.0	0.0
Adjustment	0.0	-154.0	0.0	98.9	373.2	-410.0
Deliveries of marketable gas to transport and distribution systems	0.0	5,209.3	369.6	6,303.2	131,329.8	27,785.3
Total disposition	235.1	5,471.3	369.6	7,839.3	159,028.1	31,319.9
Gas utilities						
Supply						
Total marketable gas	0.0	5,209.3	369.6	6,303.2	131,329.8	27,785.3
Receipts from distributor storage	0.0	0.0	0.0	796.0	21,296.7	1,919.2
Imports	0.0	0.0	0.0	0.0	0.0	0.0
Other receipts ¹	0.0	0.0	0.0	0.0	0.0	0.0
Total supply of marketable gas	0.0	5,209.3	369.6	7,099.2	152,626.5	29,704.5
Disposition						
Utility sales (excluding direct sales)						
British Columbia	0.0	0.0	0.0	0.0	544.6	2,022.1
Alberta	0.0	0.0	0.0	0.0	16,424.0	5,382.0
Saskatchewan	0.0	0.0	0.0	1,777.5	0.0	0.0
Manitoba	0.0	0.0	0.0	0.0	1,386.0	0.0
Ontario	0.0	0.0	369.6	2,715.2	10,680.8	1,144.3
Quebec	0.0	0.0	0.0	0.0	4,124.4	0.0
New Brunswick	0.0	0.0	0.0	0.0	0.0	0.0
Northwest Territories	0.0	0.0	0.0	0.0	0.0	0.0
Total utility sales	0.0	0.0	369.6	4,492.7	33,159.8	8,548.4
Exports	0.0	4,220.3	0.0	16.1	91,567.2	11,924.8
Direct sales ^{2, 3}	0.0	1,008.0	0.0	1,107.0	16,728.3	3,693.4
Delivered to distributor storage	0.0	0.0	0.0	1,139.1	8,609.2	4,454.6
Line pack fluctuation	0.0	-24.8	0.0	1.7	-196.7	-1.9
Pipeline fuel	0.0	0.0	0.0	77.3	4,955.8	542.5
Pipeline losses and unaccounted volumes	0.0	5.8	0.0	265.3	-2,197.1	542.7
Total disposition of marketable gas	0.0	5,209.3	369.6	7,099.2	152,626.5	29,704.5

See footnotes at the end of the table.

Table 8-2 – continued

Supply and disposition of natural gas, by source, Canada — 2002

	Yukon	Northwest Territories	Total Canadian sources	Total foreign sources	Total all sources
millions of cubic metres at 101.325 kPa and 15°C.					
Field and processing plants					
Supply					
Gross new production	370.0	1,197.0	220,469.0	...	220,469.0
Less field flared and waste	1.9	4.8	2,183.7	...	2,183.7
Net new production	368.1	1,192.2	218,285.3	...	218,285.3
Reproduced	0.0	0.0	0.0	...	0.0
Less injected and stored	0.0	0.0	12,461.7	...	12,461.7
Net withdrawals	368.1	1,192.2	205,823.6	...	205,823.6
Disposition					
Field disposition and uses	0.0	0.0	5,417.9	...	5,417.9
Gathering system disposition and uses	0.0	0.0	4,019.2	...	4,019.2
Processing plant disposition and uses					
Processing and re-processing shrinkage	61.5	173.7	18,048.8	...	18,048.8
Other disposition and uses	19.3	105.8	6,232.4	...	6,232.4
Other uses	0.0	0.0	0.0	...	0.0
Adjustment	0.0	0.0	-91.9	...	-91.9
Deliveries of marketable gas to transport and distribution systems	287.3	912.7	172,197.2	...	172,197.2
Total disposition	368.1	1,192.2	205,823.6	...	205,823.6
Gas utilities					
Supply					
Total marketable gas	287.3	912.7	172,197.2	...	172,197.2
Receipts from distributor storage	0.0	0.0	24,011.9	0.0	24,011.9
Imports	0.0	0.0	0.0	6,604.1	6,604.1
Other receipts ¹	0.0	0.0	0.0	0.0	0.0
Total supply of marketable gas	287.3	912.7	196,209.1	6,604.1	202,813.2
Disposition					
Utility sales (excluding direct sales)					
British Columbia	287.3	830.5	3,684.5	0.0	3,684.5
Alberta	0.0	0.0	21,806.0	0.0	21,806.0
Saskatchewan	0.0	0.0	1,777.5	0.0	1,777.5
Manitoba	0.0	0.0	1,386.0	0.0	1,386.0
Ontario	0.0	0.0	14,909.9	0.0	14,909.9
Quebec	0.0	0.0	4,124.4	0.0	4,124.4
New Brunswick	0.0	0.0	0.0	0.0	0.0
Northwest Territories	0.0	82.2	82.2	0.0	82.2
Total utility sales	287.3	912.7	47,770.5	0.0	47,770.5
Exports	0.0	0.0	107,728.4	0.0	107,728.4
Direct sales ^{2,3}	0.0	0.0	22,536.7	0.0	22,536.7
Delivered to distributor storage	0.0	0.0	14,202.9	6,604.1	20,807.0
Line pack fluctuation	0.0	0.0	-221.7	0.0	-221.7
Pipeline fuel	0.0	0.0	5,575.6	0.0	5,575.6
Pipeline losses and unaccounted volumes	0.0	0.0	-1,383.3	0.0	-1,383.3
Total disposition of marketable gas	287.3	912.7	196,209.1	6,604.1	202,813.2

1. Liquefied petroleum gas for gas enrichment, peak shaving or temporary supply.

2. Direct deliveries for industrial consumption and miscellaneous utility deliveries.

3. Data presented for Alberta as direct sales are intended to represent direct sales volumes actually consumed in the provinces of Saskatchewan, Manitoba, Ontario, and Quebec. Spacing constraints within the table does not allow for the allocation by province.

Note(s): This table is not restricted to NAICS 211; it includes certain statistics of Gas Distribution (NAICS 2212) and of Pipeline Transport (NAICS 4862).

Table 9
Total sales of natural gas, by province

	Gas Utility Sales ¹				Direct ² sales	Total sales
	Residential	Commercial	Industrial	Total		
millions of cubic metres						
2002						
Nova Scotia	0.0	0.0	0.0	0.0	543.9	543.9
New Brunswick	0.0	0.0	0.0	0.0	464.1	464.1
Quebec	685.8	1,863.1	1,575.6	4,124.5	1,704.5	5,829.0
Ontario	8,391.4	5,683.4	835.0	14,909.8	11,927.4	26,837.2
Manitoba	593.5	722.7	69.8	1,386.0	837.6	2,223.6
Saskatchewan	989.8	773.5	14.2	1,777.5	3,365.2	5,142.7
Alberta	4,245.0	2,687.7	14,873.3	21,806.0	0.0	21,806.0
British Columbia	2,096.9	1,367.0	218.7	3,682.6	3,694.0	7,376.6
Canada	17,002.4	13,097.4	17,586.6	47,686.4	22,536.7	70,223.1
2001						
Nova Scotia	0.0	0.0	0.0	0.0	2.9	2.9
New Brunswick	0.0	0.0	0.0	0.0	42.2	42.2
Quebec	620.8	1,728.1	2,873.3	5,222.2	35.8	5,258.0
Ontario	7,871.3	5,567.4	936.1	14,374.8	11,113.8	25,488.6
Manitoba	582.8	695.0	156.5	1,434.3	611.3	2,045.6
Saskatchewan	910.7	715.3	19.5	1,645.5	3,278.0	4,923.5
Alberta	3,800.6	2,294.9	14,537.4	20,632.9	0.0	20,632.9
British Columbia	2,001.5	1,340.3	293.1	3,634.9	4,771.8	8,406.7
Canada	15,787.7	12,341.0	18,815.9	46,944.6	19,855.8	66,800.4

1. Represents sales of natural gas by natural gas utilities.

2. Represents direct, non-utility sales of natural gas.

Table 10
Reconciliation table – Saskatchewan value of crude oil production, 2002

	Value
	thousands of dollars
Marketable production of Saskatchewan conventional crude oil – Table 5 ¹	4,680,769
Add: Value of sales of upgraded crude oil ²	909,000
Total value of marketable production of Saskatchewan crude oil ³	5,589,769

1. Represents value of marketable conventional crude oil as published by Saskatchewan Industry and Resources.

2. Represents estimate of value of sales of Saskatchewan upgraded crude oil.

3. Represents the value of Saskatchewan crude oil, including upgraded crude oil. This valuation is consistent with NAICS based industry statistics as published by the System of National Accounts, Input-Output Division.

Data quality and methodology

This publication presents data on the Crude Petroleum and Natural Gas Industry (NAICS 211 of the North American Industry Classification System, catalogue no.12-501-X). This industry includes establishments primarily engaged in exploration for and/or production of petroleum or natural gas from wells or tar sands, and natural gas plants processing the natural gas. In this publication, the oil sands industry is excluded from the tables which present principal statistics and labour data. However, the operating and capital expenditures of the oil sands industry are shown in text table 1 and the synthetic crude produced is included in commodity tables 4, 5-1 and 6.

Data presented in this publication on the supply and disposition of crude oil and equivalents and natural gas are compiled from information provided by agencies or departments of the provinces and territories responsible for the regulation of crude oil and natural gas production. As a result, 100% of oil and natural gas production by conventional or other means, whether offshore or on land, is accounted for.

Data on operating and capital expenditures are compiled from an annual survey of approximately 500 companies engaged in oil and natural gas exploration, development and production. Companies with annual capital expenditures of less than \$50,000 are excluded from the survey. The response rate for the survey is very high — over 95%. As a consequence, minimal imputation is required and minimal bias resulting from non-response is introduced in these data.

Data on drilling completions and crude oil and natural gas reserves are obtained from the Canadian Association of Petroleum Producers (formerly Canadian Petroleum Association).

Data published in this publication are subject to a certain degree of error, be it in differences in the interpretation of the questions, or mistakes introduced during processing. Reasonable efforts are made to ensure these errors are kept within acceptable limits through careful questionnaire design, liaison with major respondents, editing of data for inconsistencies and subsequent follow-up and quality control of manual processing operations. Historically, experience has indicated that the data rarely contain a serious error.

Concepts

Establishments in the crude petroleum and natural gas industry explore for and produce crude petroleum, natural gas, propane, butanes, ethane, and sulphur, either directly from the fields or from processing plants. That is, the establishment boundary includes within it the facilities of the processing plants, the oil and gas fields, geological and geophysical exploration, and head office functions supporting such activities, and any other ancillary services as are required to maintain such exploration or producing programmes. Although a company may be engaged in all phases of the industry, it may not necessarily be engaged in all phases in anyone province. Refining and marketing activities of oil companies are not included in NAICS 211, but are coded to separate industries. It should also be carefully noted that the companies engaged in geological and geophysical consulting, or as contractors, are not included in the NAICS 211, Crude Petroleum and Natural Gas Industry.

In our statistical publications, expenditures of the industry are segregated between exploration, development, operating and royalties. The primary purpose of this publication is to make available operational type data, while the basic statistics on capital expenditures are published by the Investment and Capital Stock Division in **Private and Public Investment in Canada** (catalogue no. 61-205-X).

Producing activity is defined as activity in which capital and operating expenditures are made by the establishment for the purpose of producing crude petroleum and natural gas. This includes expenditures on gas processing and re-processing plants and production facilities.

Total activity includes the producing activity plus an extension of the data for other non-producing activities in which the establishment might be engaged. Generally speaking, these are the geological and geophysical activities plus capital additions produced by own labour force for own use and charged to Fixed Assets Accounts.

Periodically, Statistics Canada, undertakes a special survey of the exploration, and production activities of 25 major oil and gas companies operating in Canada. Detailed data are collected from these selected companies for each operating and capital function, breaking the expenditures down into salaries and wages, materials and supplies and payments to contractors. These breakdowns of expenditures are considered as representative of the industry, and the total expenditures collected from all respondents in the annual survey are broken down in the same proportion as indicated by the special survey.

Definitions

Production and expenditures

Gross new production: All new production as measured at the first well head metering point.

Net new production: "Gross new production" after the deduction of flared field production. It is the production that is available for further processing, sale, storage and field uses.

Production net withdrawals: "Net new production" plus reproduction from field storage, less the amount of gas or oil that is reinjected into field pools or storage.

Marketable production: The production of gas, oil, propane, butanes, ethane and pentanes which are produced and available for market; in other words, the production of natural gas products produced by gas processing plants after processing and reprocessing plant uses, losses and shrinkage, the sales of natural gas from dry gas fields after field use, losses, reinjection or the production for sale of crude oil after field use and losses, reinjection but before inventory changes.

Crude oil: A mixture mainly of pentanes and heavier hydrocarbons that may be contaminated with sulphur compounds, that is recovered or is recoverable at a well from an underground reservoir and that is liquid at the conditions under which its volume is measured or estimated. It includes all other hydrocarbon mixtures so recovered or recoverable except raw gas or condensate.

Conventional crude oil: Crude oil recoverable from a well using standard production methods.

Heavy crude oil: Oil with high viscosity, recoverable only to a very limited extent by using standard production methods.

Synthetic crude oil: A mixture of mainly pentanes and heavier hydrocarbons that may contain sulphur compounds, that is derived from crude bitumen and that is liquid at the conditions under which its volume is measured or estimated, and includes all other hydrocarbon mixtures so derived.

Crude bitumen: A naturally occurring viscous mixture, mainly of hydrocarbons heavier than pentane, that may contain sulphur compounds and that, in its naturally occurring viscous state, will not flow to a well.

Condensate: A mixture of mainly pentanes and heavier hydrocarbons that may be contaminated with sulphur compounds, that is recoverable at a well from an underground reservoir and that is gaseous in its virgin reservoir state but is liquid at the conditions under which its volume is measured or estimated.

Pentanes plus: A mixture of mainly pentanes and heavier hydrocarbons which ordinarily may contain some butanes and which is obtained from the processing of raw gas, condensate or crude oil.

In-Situ recovery: Refers to recovery methods applicable in heavy oil and oil sands formations without the removal of conglomerates from the location.

Oil sands: Deposits of sands and clays (excluding oil shales) heavily impregnated with semi-solid or solid bitumen, also known as tar sands. Athabasca, Peace River, Wabasca, Cold Lake and Buffalo Head Hills are the main Canadian resource areas.

Natural gas: A mix of hydrocarbon compounds and small quantities of various non-hydrocarbons existing in a gaseous phase or in solution with crude oil at reservoir conditions.

Natural gas liquids (NGL): That portion of reservoir gas which is liquefied at the surface in lease separators, field facilities, or gas processing plants. Includes ethane, propane, butanes and pentanes.

Propane: In addition to its normal scientific meaning, a mixture mainly of propane which ordinarily may contain some ethane or butanes.

Butanes: In addition to its normal scientific meaning, a mixture mainly of butanes which ordinarily may contain some propane or pentanes plus.

Ethane: In addition to its normal scientific meaning, a mixture mainly of ethane which ordinarily may contain some methane or propane.

Upstream segment: Activities and operations related to the search for, development, production, extraction and recovery of crude oil, natural gas, natural gas liquids and sulphur, as well as the production of synthetic oil.

Downstream segment: Includes refining and marketing, transportation and petrochemical operations.

Geological and geophysical (G&G) expenses: Costs associated with the undertaking of geological and geophysical studies, including salaries and supplies for geologists and geophysical crews as well as outlays for equipment and rights of access.

Exploration costs: Costs associated with the search for oil or natural gas deposits, including all lease fees and land acquisition costs, geological and geophysical expenditures, and exploratory drilling costs whether capitalized or expensed. Exploratory drilling is generally defined as the drilling of a well outside a proven area, or within a proven area but in a previously untested zone, to determine whether oil or gas reserves exist. Also included are costs of dry wells, casing and other materials and equipment abandoned in place.

Production expenditures: All spending related to the production of crude oil and natural gas, including expenditures on natural gas processing plants.

Gas utilities

Total marketable gas: Receipt of gas from fields, processing or reprocessing plants after re-injection, field uses, processing plant or reprocessing plant shrinkage, plant use losses have been deducted.

Imports: Receipts of gas, by pipeline, into Canada.

Other receipts: Includes liquified petroleum gases for peak shaving and receipts from non-reporting companies.

Exports: Export of gas, by pipeline, to the United States.

Direct sales: Represents direct, non-utility delivery for consumption.

Drilling completions

New field wildcat: A new field wildcat is a test located on a structural feature or other type of trap which has not previously produced oil or gas. In regions where local geological conditions have little or no control over accumulations, these tests are generally at least three kilometres from the nearest productive area. Distance, however, is not the determining factor. Of greater importance is the degree of risk assumed by the operator, and his intention to test a structure or stratigraphic condition not previously proved productive.

New pool wildcat: A new pool wildcat is a test located to explore for a new pool on a structural feature of other type of trap already producing oil or gas, but outside the known limits of the presently producing area. In some regions where local geological conditions exert an almost negligible control, exploratory holes of this type may be called "near wildcats". Such wells will usually be less than three kilometres from the nearest productive area.

Deeper pool test: A deeper pool test is an exploratory hole located within the productive area of a pool, or pools, already partly or wholly developed. It is drilled below the deepest productive pool in order to explore for deeper unknown prospects. All metres drilled are assigned to the exploratory category. This practise was adopted commencing with the 1979 data. Previously, metres drilled were split between the exploratory and development category.

Shallower pool test: A shallower pool test is an exploratory test drilled in search of a new productive reservoir, unknown but possibly suspected from data secured from other wells, and shallower than known productive pools. This test is located within the productive area of a pool or pools previously developed.

Outposts: An outpost is a test located and drilled with the expectation of extending for a considerable distance the productive area of a partly developed pool. It is usually two or more locations distant from the nearest productive site.

Development well: A development well is a well drilled within the proved area of an oil or gas reservoir to the depth of a stratigraphic horizon known to be productive. If the well is completed for production, it is classified as an oil or gas development well. If the well is not completed for production and is abandoned, it is classified as a dry development hole.

Stratigraphic test: A stratigraphic test is a drilling effort, geologically directed, to obtain information pertaining to a specific geological condition that might lead toward the discovery of an accumulation of hydrocarbons. Such tests are customarily drilled without the intention of being completed for hydrocarbon production. This classification also includes tests identified as score tests and all types of expendable holes related to hydrocarbon exploration.

Service well: A service well is a well drilled or completed for the purpose of supporting production in an existing field. Wells of this class are drilled for the following specific purposes: Gas injection (natural gas, propane, butane), water injection, air injection, steam injection, salt water disposal, water supply for injection, observation, injection for in situ combustion.

Miscellaneous wells: This classification includes storage wells (natural gas, propane, butane), salt brine wells and other wells not classified under categories above.

Project wells: A project well is a well drilled within a designated oil sands area or like deposit for the purpose of producing raw bitumen from the deposit. Such wells may be drilled for pilot, experimental or commercial projects.

Reserves

Established reserves: Those reserves recoverable under current technology and present and anticipated economic conditions, specifically proved by drilling, testing or production, plus that judgement portion of contiguous recoverable reserves that are interpreted to exist, from geological, geophysical or similar information, with reasonable certainty.

Value added

By production activities: Is defined as the value of marketable production less materials and supplies purchased and fuel and electricity consumed in the production of hydrocarbons and sulphur.

Components of value added — Producing activity

Electricity: Data refer to amounts purchased and used, with costs being delivered costs at plant and/or field. Electricity produced by establishments for internal consumption is not included in electricity purchases.

Shipments: The quantity and value of the marketable production that has actually been shipped. The differences between shipments and marketable production are inventory changes which may occur because a company may produce and accumulate or draw down inventories.

Materials and supplies used in producing activities: Data provided in table 1 represent quantities at laid down cost to the establishment of materials, supplies, chemicals, explosives and components consumed during the year in producing activities. In the oil and gas industry it is not practical to estimate the amount of materials that are used as fuel, since this amount represents only a small part of the total energy requirements of the industry and company accounting records do not provide this breakdown. For this reason the amount of fuel purchased and used is shown as a component of materials and supplies. The statistics represent only commodity items or physical goods (costs of

services or overhead charges such as advertising, insurance and depreciation are not included) whether purchased from others or received as transfers (in the form of materials, components or semi-processed goods) from other establishments of the reporting company. Respondents were requested to report materials and supplies purchased and used. Included are repair and maintenance supplies not chargeable to fixed assets accounts. Also included is the cost of office supplies not chargeable to fixed assets accounts and the cost of such other items of materials and supplies used as food, beverages and supplies for establishment operated cafeterias and lunch counters, first aid medical supplies, laboratory supplies and other general supplies and materials used.

Employment, person-hours, salaries and wages: Employees include salaried management, professional, technical and administrative personnel, plus production, field, plant and related workers, and relate both to producing and non-producing activities.

"Production and related workers" are reported as those receiving pay during the last pay period in the respective month. The numbers are somewhat affected by turnover, in that employment may be overstated when an employee changes employment in the middle of a pay period.

Man-hours of production and related workers in producing activities represent total man-hours paid (total hours at work during the calendar year plus hours not worked but nevertheless paid for, such as paid vacations, sick leave and statutory holidays). In reporting overtime hours, respondents are requested to report only hours actually at work. It should be noted that the division of hours paid into production and related workers payrolls results in average hourly earnings and does not represent hourly wage rates which are collected and published by the Department of Labour.