



CANADIAN ASSOCIATION
OF PETROLEUM PRODUCERS

Canadian Crude Oil Production and Supply Forecast 2006 - 2020

1.0 Introduction

The Canadian Association of Petroleum Producers (CAPP) 2006-2020 forecast has been developed to provide industry with a long-range outlook for Canadian crude oil production. The primary use of this forecast is to enable members to plan for pipeline capacity requirements for transporting Canadian crude oil to markets. This forecast includes a production outlook for both western and eastern Canada, however the analysis focuses on western Canadian production and supply because offshore eastern oil production does not rely on pipeline access to reach markets.

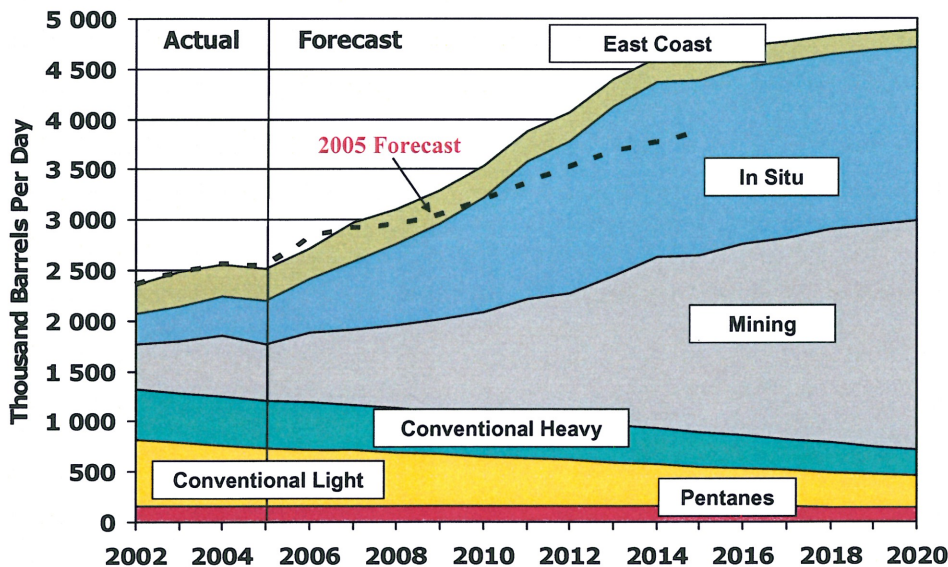
The main source of growth in the western Canadian production forecast, over the next fifteen years, comes for Alberta’s oil sands. The outlook for oil sands production included in this forecast is based on a survey of CAPP members; more information on the methodology used to develop this forecast is provided in the methodology section presented at the end of this document.

2.0 Canadian Crude Oil Production

Canadian crude oil production is forecast to grow from 2.5 million barrels per day (b/d) in 2005 to 4.6 million b/d by 2015, with further potential growth to 4.9 million b/d by 2020. Chart 1 presents the forecast by types of Canadian crude oil production. Atlantic Canada’s East Coast conventional light production comes from offshore projects while western Canadian production comes from both conventional sources and oil sands. Bitumen production from the oil sands can be extracted using one of two recovery processes, in-situ for areas deeper than about 80 meters and with mining operations where deposits are closer to the surface.

The 2006 forecast represents an increase compared to last year’s forecast by about 750,000 b/d in 2015. The increase reflects more aggressive scheduling for some projects and new investments in the oil sands.

Chart 1: Canadian Crude Oil Production Forecast



The forecast for the East Coast reflects a reduction due to the removal of the Hebron project, which was previously included in the projection developed in 2005.

Table 1: Canadian Crude Oil Production

Thousand Barrels Per Day

	<u>1990</u>	<u>1995</u>	<u>2000</u>	<u>2005</u>	<u>2010</u>	<u>2015</u>	<u>2020</u>
Western Canada							
Conventional Light	940	936	734	577	495	400	309
Conventional Heavy	263	415	510	476	413	340	263
Pentanes	116	161	194	160	156	152	149
Oil Sands Mining	209	279	321	552	1 019	1 750	2 273
Oil Sands In-Situ	135	149	289	438	1 132	1 745	1 724
Total	1 663	1 940	2 048	2 204	3 215	4 387	4 718
Offshore East Coast	0	21	145	305	320	230	160
Canada	1 663	1 961	2 193	2 509	3 535	4 617	4 878

3.0 Western Canadian Crude Oil Production

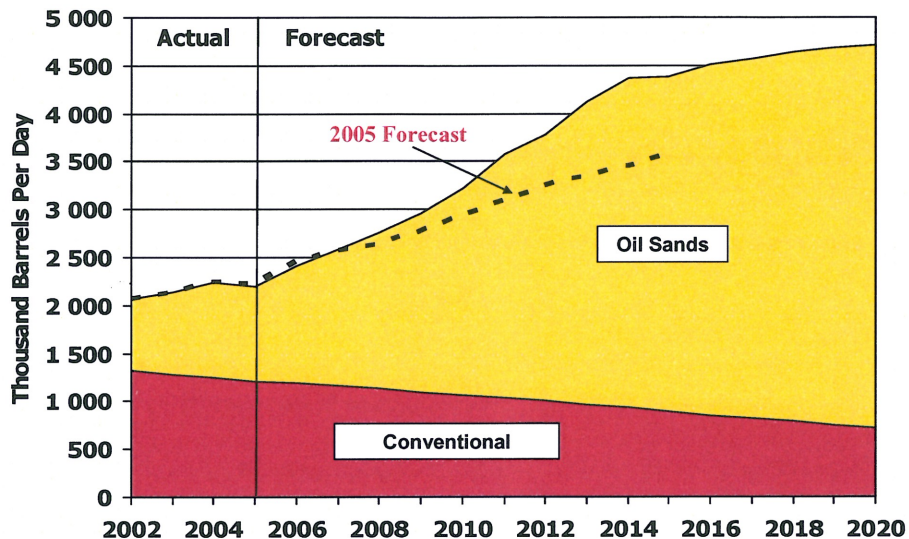
Western Canadian crude oil production is projected to grow from 2.2 million b/d in 2005 to 4.7 million b/d, by 2020.

Some of the highlights are:

- Conventional production in western Canada has been declining slowly since the late 1990s. By 2020, conventional oil production is reduced to about 550,000 b/d, about one-half of its current level.
- Recent trends indicate that the year-over-year decline rate for conventional production has slowed somewhat due to high oil prices but the overall trend is continued declines.
- Both in-situ and mining projects contribute to the growth in oil sands production, with a four-fold increase in production for each category.
- Western Canadian crude production growth, which more than doubles over the next 15 years will require construction of new pipelines to ensure new oil supplies can be transported to markets in Canada, the U.S. and potentially offshore.
- The share of western oil production generated by oil sands grows from 45 percent in 2005 to about 80 percent, by 2020.
- Compared to CAPP's 2005 forecast, the outlook for oil production from western Canada has increased by about 800,000 b/d in 2015.

Chart 2 depicts the split between oil sands and conventional production and also shows the increase in western Canadian production over last year's projection. The significant growth in oil sands production means four in five barrels produced is sourced from the oil sands by 2020.

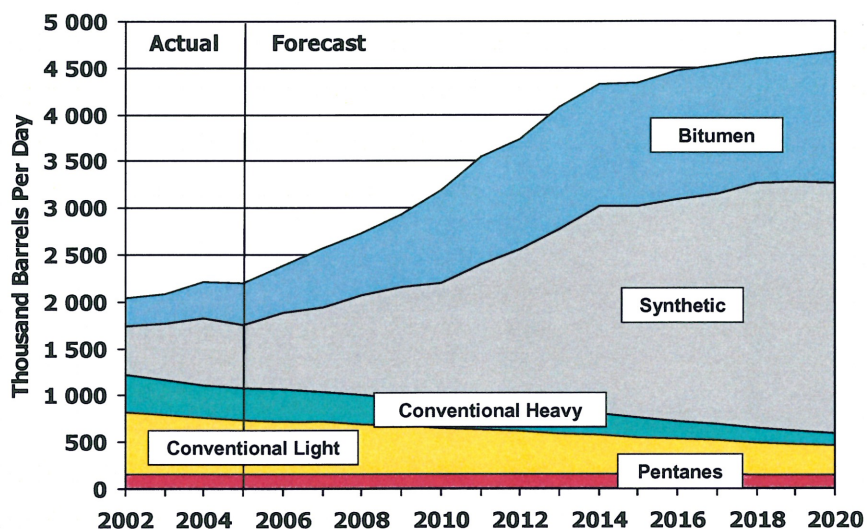
Chart 2: Comparison of Oil Sands versus Conventional Oil Production



Oil sands bitumen production can be marketed as a heavy crude blend or it can be further upgraded and marketed as synthetic oil. Chart 3 shows the split between bitumen and synthetic production for the oil sands along with the conventional light and heavy production forecast.

A number of projects such as Suncor and Syncrude have upgrading as part of an integrated operation. In addition to the integrated oil sands projects a number of stand-alone or merchant upgrader projects have been announced and planned and are included in the forecast. The potential supplies from these projects have been included in the synthetic shown in Chart 3.

Chart 3: Western Canadian Crude Oil Supply Forecast



4.0 Western Canadian Crude Oil Supply to Market

To enable conventional heavy oil and bitumen oil to be transported using pipelines, it must be diluted with a lighter commodity such as condensate/pentanes or synthetic crude. This blending

process lowers the viscosity and density of the crude allowing for efficient transportation through pipelines.

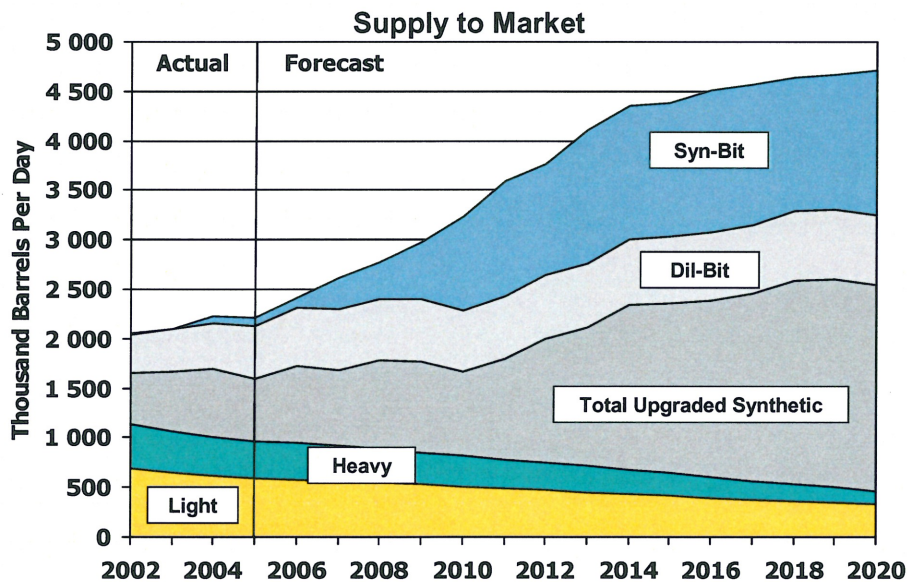
The main source of diluent has been condensates/pentanes produced in western Canada. These products are slowly declining and will not provide sufficient supplies of diluent to match forecast growth of bitumen. Producers have been evaluating options to import condensate using either existing infrastructure such as railroads or through a condensate import pipeline. As an alternative, producers are also considering using synthetic for blending.

When bitumen is blended with traditional condensate/pentanes the blended crude is typically referred to as a dil-bit blend. Bitumen blended using synthetic crude has been referred to as syn-bit.

4.1 Supply Scenario with Synthetic Crude Used as Diluent

Chart 4 shows the amount of syn-bit developed as a result of the limited supply of condensate. The forecast shows the volume of dil-bit as generally constant. Over the forecast period, the development of a syn-bit blend uses substantial volumes of synthetic for blending purposes.

**Chart 4: Western Canadian Crude Oil Supply
With Synthetic Crude used for Blending**

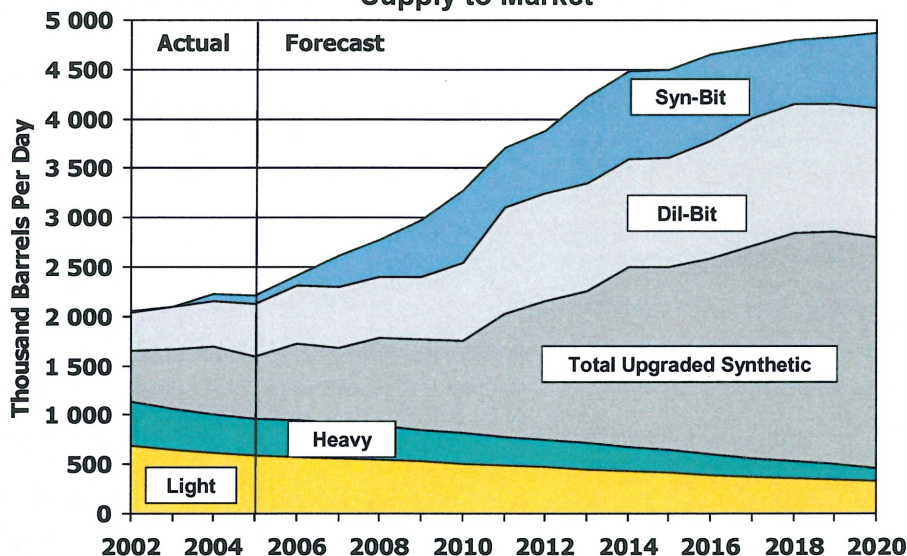


4.2 Supply Scenario with Imported Condensate Used as Diluent

Currently, western Canadian producers have limited capability to import large volumes of condensate from other areas due to a lack of pipeline access. This scenario assumes producers support the development of a pipeline to import condensate. The forecast assumes initial imports of 150,000 b/d growing to 200,000 b/d by 2020.

The access to condensate has a significant impact on the crude mix produced. Chart 5 shows the growth in dil-bit and the offsetting reduction in syn-bit and growth in synthetic crude.

**Chart 5: Western Canadian Crude Oil Supply
Including a 150,000 b/d Condensate Import Pipeline
Supply to Market**



5.0 Forecast Potential and Risks

As noted, the primary purpose for the forecast is to ensure producers have information to plan for increases in pipeline capacity to market their growing supplies of crude oil. As such, the forecast is prepared to not be too conservative because the cost of a small amount of surplus pipeline capacity is preferable to the lost revenue from shut-in production due to insufficient pipeline capacity.

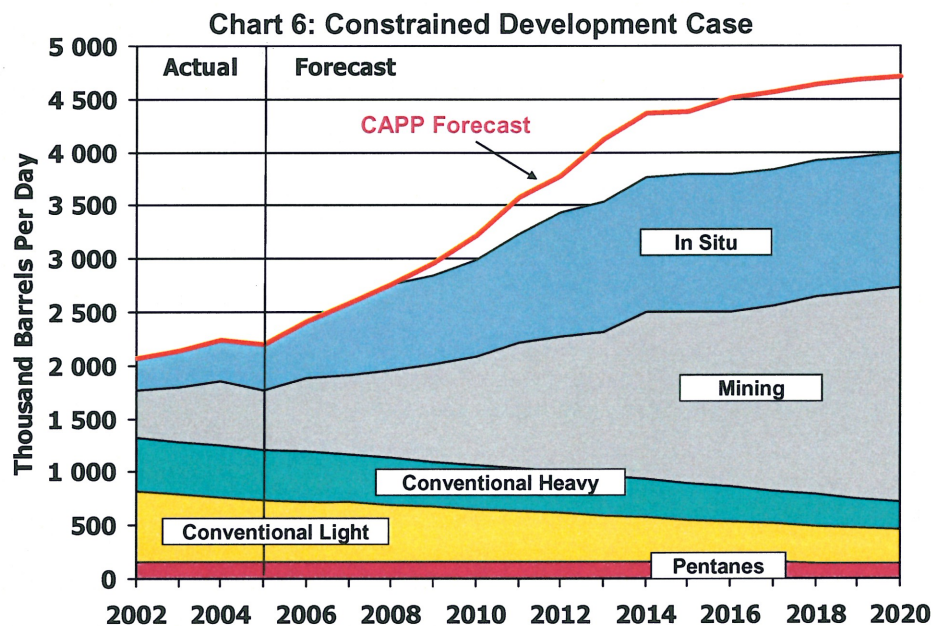
Due to competing strong economic growth in many sectors, the potential oil sands development underpinning the forecast may be subject to a number of delays and risk factors that could slow the pace of development and the corresponding increase in production being forecast in the “base” case. The development capacity to convert the plans for new oil sands projects into construction and facilities may be constrained by a limited supply of manpower, infrastructure and other resources. The following points illustrate areas that may slow the pace of oil sands development.

- Unemployment levels in Canada and Alberta are near record low levels. The demand for manpower exceeds the available supply of skilled workers in many sectors of the economy, including oil sands. Although solutions such as training and immigration are planned, it takes time to gear up government processes and support systems that deal with increasing the supply of qualified manpower. This may pose a challenge not only for oil sands development but also the key support sectors, such as education, housing and infrastructure that are integral to achieving the forecast pace of development;
- Refiner’s abilities to run and process oil sands crudes are currently at full capacity in the market areas served by Canadian producers. Refineries will need to undertake plant conversions and expansions to utilize and absorb the growth in crude supplies from the oil sands and producers will need to extend beyond their traditional market areas. Producers will be reluctant to grow supplies without markets to absorb the crude. As such, the ability to grow production may be

constrained if the pace of refinery development or market expansion does not keep pace with potential oil sands development.

- Strong economic growth and activity levels in Alberta, other regions in North America and global markets means competing demands for key resources essential to oil sands development, such as steel and fabricating facilities. Finite capacity to produce and manufacture key input materials and equipment could possibly result in a degree of queuing for essential components, which could translate into delays for some projects.
- A number of the in-situ recovery processes, such as steam assisted gravity drainage (SAGD) recovery techniques, are still at an early stage. As many projects transition from pilot to commercial level projects, there is a risk that start-up delays and/or unanticipated technical challenges may slow the pace of production in the early years of the forecast.

The following chart reflects the potential impact associated with development being constrained or delayed. By 2020 the forecast is reduced by about 800,000 b/d of production.



6.0 Methodology

CAPP annually prepares a crude oil production and supply forecast. The oil sands components are developed from a survey of CAPP members which encompasses all projects. CAPP received a 100 percent response to the survey, as members have a vested interest to help ensure the production forecast accurately portrays expected production.

Survey responses reflect both planned and envisioned projects because it covers a fifteen year period. CAPP has risk adjusted some of the envisioned projects by adjusting the potential completion schedules for projects which are deemed more uncertain. As such, the CAPP forecast is reduced compared with the ultimate potential reflected in the survey raw survey data.

For conventional crude oil production, CAPP extrapolates production based on historical trends adjusted to reflect recent events and developments in the industry. Both the conventional and oil sands production are benchmarked based on the most recent actual production data published by government agencies.

This forecast reflects a relatively optimistic outlook for western Canadian crude oil production and assumes that the development of markets and pipeline infrastructure will coincide to support the forecast growth in western Canadian production. A key use of the forecast is to allow members to plan for needed pipeline capacity increases.

The survey results do not prescribe any forecasts of future oil prices and rely on individual companies incorporating their own internal price expectations to develop their production forecasts.

7.0 Production and Supply Tables

The following tables provide the detailed forecast data from which the charts were created. Three sets of tables are included to show production, two supply scenarios and a high level assessment of the need for incremental pipeline capacity.

Table 1

CAPP CANADIAN CRUDE OIL PRODUCTION FORECAST 2006 - 2020

	Thousand barrels per day					Forecast															
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
CONVENTIONAL																					
Light & Medium																					
Alberta	481	438	414	389	374	366	359	348	334	321	308	296	284	273	259	246	234	222	211	200	
B.C.	43	42	37	35	30	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	
Saskatchewan	143	139	138	137	141	138	135	131	126	121	116	111	107	102	97	92	88	83	79	75	
Manitoba	11	11	11	11	14	13	13	13	12	12	11	11	10	10	10	9	9	8	8	7	
N.W.T.	25	24	22	21	19	18	18	18	17	16	15	15	14	14	13	12	12	11	11	10	
Total Conv. Light and Medium	704	653	622	593	577	566	554	538	516	495	476	457	438	421	400	380	361	343	326	309	
Heavy																					
Alberta Conv. Heavy	240	222	216	211	197	194	188	182	177	171	166	161	155	149	141	134	127	121	115	109	
Saskatchewan Conv. Heavy*	283	282	282	286	278	273	265	257	249	241	234	227	218	209	199	189	180	171	162	154	
Total Conventional Heavy	523	504	498	497	476	466	452	439	426	413	400	388	373	358	340	323	307	292	277	263	
TOTAL CONVENTIONAL	1 226	1 157	1 120	1 089	1 053	1 032	1 007	976	942	908	876	845	811	779	740	703	668	634	603	572	
PENTANES/CONDENSATE	186	163	164	162	160	159	159	158	157	156	155	155	154	153	152	152	151	150	149	149	
OIL SANDS																					
Oil Sands Mining	349	441	514	608	552	696	751	826	908	1 019	1 182	1 264	1 481	1 701	1 750	1 909	1 996	2 121	2 195	2 273	
Oil Sands In-Situ	310	303	349	386	438	520	676	794	957	1 132	1 370	1 513	1 683	1 736	1 745	1 753	1 752	1 740	1 730	1 724	
TOTAL OIL SANDS	659	744	863	994	991	1 216	1 427	1 620	1 865	2 151	2 552	2 777	3 164	3 437	3 495	3 661	3 748	3 861	3 925	3 997	
WESTERN CANADA OIL PRODUCTION	2 071	2 065	2 147	2 245	2 204	2 407	2 592	2 754	2 964	3 215	3 583	3 777	4 129	4 369	4 387	4 516	4 567	4 645	4 677	4 718	
TOTAL CANADIAN OIL PRODUCTION	2 220	2 350	2 484	2 560	2 509	2 722	2 967	3 109	3 294	3 535	3 883	4 062	4 394	4 614	4 617	4 731	4 767	4 830	4 852	4 878	

Notes:

* Re-allocates Saskatchewan Area III "Medium" into medium and heavy. Reserves data shows about 17% of Area III is > 900 kg/m3

May, 2006

CAPP WESTERN CANADIAN CRUDE OIL SUPPLY FORECAST 2006 - 2020

Table 2

BLENDING SUPPLY to Trunk Pipelines and Markets

Supply Scenario with Synthetic Crude Used as Diluent

	<i>Thousand barrels per day</i>					Forecast															
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	
CONVENTIONAL																					
Total Light and Medium	704	653	622	593	567	555	544	528	507	487	467	448	430	413	393	373	354	337	320	304	
Net Conventional Heavy to Market	463	443	418	395	379	368	353	337	323	308	294	280	263	246	226	207	189	172	155	140	
TOTAL CONVENTIONAL	1 166	1 097	1 041	988	946	924	897	865	829	795	761	729	694	659	619	580	543	508	475	443	
NGL Mix	37	37	30	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	
OIL SANDS																					
Upgraded Light (Synthetic)	377	465	492	560	495	615	605	705	737	664	814	1 012	1 171	1 305	1 398	1 469	1 545	1 675	1 704	1 694	
Heavy Equivelant																					
Dil Bit Blend and Synthetic Heavy	435	446	531	587	669	753	769	805	805	807	837	884	872	1 021	998	999	1 030	1 080	1 100	1 093	
Syn-Bit	6	5	7	69	87	104	316	371	581	949	1 155	1 117	1 352	1 351	1 341	1 447	1 426	1 352	1 372	1 463	
Total Heavy Equivelant	441	451	538	656	756	857	1 085	1 176	1 387	1 756	1 992	2 001	2 224	2 372	2 338	2 446	2 456	2 432	2 472	2 556	
<i>Synthetic Used as Diluent</i>			3	31	39	47	142	167	262	427	520	503	609	608	603	651	642	609	617	658	
TOTAL OIL SANDS AND UPGRADERS	818	917	1 030	1 216	1 251	1 472	1 690	1 882	2 123	2 420	2 806	3 013	3 395	3 678	3 736	3 915	4 001	4 107	4 176	4 250	
Total Light Supply	1 118	1 156	1 144	1 175	1 084	1 192	1 171	1 255	1 266	1 172	1 303	1 482	1 623	1 741	1 812	1 864	1 921	2 033	2 046	2 020	
Total Heavy Supply	904	895	956	1 051	1 135	1 225	1 438	1 514	1 709	2 064	2 286	2 282	2 487	2 619	2 565	2 653	2 645	2 604	2 627	2 696	
WESTERN CANADA OIL SUPPLY	2 021	2 051	2 100	2 226	2 219	2 418	2 609	2 769	2 975	3 236	3 589	3 764	4 111	4 359	4 377	4 517	4 566	4 637	4 673	4 715	

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CAPP WESTERN CANADIAN CRUDE OIL SUPPLY FORECAST 2006 - 2020

Table 3

BLENDING SUPPLY to Trunk Pipelines and Markets

Supply Scenario with Condensate Used as Diluent

	<i>Thousand barrels per day</i>					<i>Actual</i>															<i>Forecast</i>				
	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>					
<u>CONVENTIONAL</u>																									
Total Light and Medium	704	653	622	593	567	555	544	528	507	487	467	448	430	413	393	373	354	337	320	304					
Net Conventional Heavy to Market	463	443	418	395	379	368	353	337	323	308	294	280	263	246	226	207	189	172	155	140					
TOTAL CONVENTIONAL	1 166	1 097	1 041	988	946	924	897	865	829	795	761	729	694	659	619	580	543	508	475	443					
NGL Mix	37	37	30	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22					
<u>OIL SANDS</u>																									
Upgraded Light (Synthetic)	377	465	492	560	495	615	605	705	737	748	1 026	1 196	1 351	1 482	1 569	1 688	1 816	1 943	1 970	1 958					
Heavy Equivelant																									
Dil Bit Blend and Synthetic Heavy	435	446	531	587	669	753	769	805	805	983	1 299	1 304	1 284	1 424	1 391	1 492	1 630	1 676	1 691	1 680					
Syn-Bit	6	5	7	69	87	104	316	371	581	729	599	635	881	890	891	873	719	651	676	772					
Total Heavy Equivelant	441	451	538	656	756	857	1 085	1 176	1 387	1 712	1 898	1 939	2 164	2 314	2 283	2 365	2 349	2 326	2 367	2 452					
Synthetic Used as Diluent			3	31	39	47	142	167	262	328	270	286	396	401	401	393	324	293	304	347					
TOTAL OIL SANDS AND UPGRADERS	818	917	1 030	1 216	1 251	1 472	1 690	1 882	2 123	2 460	2 925	3 135	3 516	3 796	3 852	4 054	4 164	4 269	4 337	4 410					
Total Light Supply	1 118	1 156	1 144	1 175	1 084	1 192	1 171	1 255	1 266	1 256	1 515	1 666	1 804	1 917	1 984	2 083	2 192	2 302	2 312	2 284					
Total Heavy Supply	904	895	956	1 051	1 135	1 225	1 438	1 514	1 709	2 020	2 192	2 220	2 427	2 561	2 509	2 572	2 538	2 498	2 522	2 592					
WESTERN CANADA OIL SUPPLY	2 021	2 051	2 100	2 226	2 219	2 418	2 609	2 769	2 975	3 277	3 708	3 886	4 231	4 478	4 493	4 656	4 730	4 800	4 834	4 876					

May, 2006

CAPP WESTERN CANADIAN CRUDE OIL SUPPLY FORECAST 2006 - 2020
Summary of Western Canadian Supply and Pipeline Capacity ex Western Canada
Supply Scenario with Synthetic Crude Used as Diluent

Table 4

	Thousand Barrels Per Day															
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Light Crude Supply	1 080	1 190	1 170	1 260	1 270	1 170	1 300	1 480	1 620	1 740	1 810	1 860	1 920	2 030	2 050	2 020
Non Enbridge Demand	690	710	720	720	760	770	770	770	770	770	770	770	770	770	770	770
Supply to Enbridge	390	490	450	530	510	410	540	720	860	980	1 050	1 100	1 160	1 270	1 280	1 250
Enbridge Light Capacity (Line 2 & Line 13)	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580
Capacity Surplus / (Shortfall)	190	90	130	50	80	170	40	(140)	(280)	(390)	(470)	(520)	(580)	(690)	(700)	(670)
Heavy Crude Supply	1 140	1 230	1 440	1 510	1 710	2 060	2 290	2 280	2 490	2 620	2 560	2 650	2 640	2 600	2 630	2 700
Non Enbridge Demand	320	330	370	370	380	380	380	380	380	380	380	380	380	380	380	380
Supply to Enbridge	810	890	1 070	1 140	1 330	1 690	1 910	1 900	2 110	2 240	2 190	2 280	2 270	2 230	2 250	2 320
Enbridge Heavy Capacity (L3 & L4)	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120
Capacity Surplus / (Shortfall)	300	220	50	(30)	(220)	(570)	(790)	(790)	(1 000)	(1 130)	(1 070)	(1 160)	(1 150)	(1 110)	(1 130)	(1 200)
Total Supply to Enbridge	1 200	1 380	1 520	1 670	1 840	2 100	2 450	2 620	2 970	3 220	3 240	3 380	3 430	3 500	3 530	3 570
Total Enbridge Capacity	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700
Net Surplus / (Shortfall)	500	320	180	30	(140)	(400)	(750)	(920)	(1 270)	(1 520)	(1 540)	(1 680)	(1 730)	(1 800)	(1 830)	(1 870)
Planned Western Canadian Capacity Expansion Projects:																
Enbridge Southern Access			120	268	315	315	315	315	315	315	315	315	315	315	315	315
Trans Canada Keystone					170	340	340	340	340	340	340	340	340	340	340	340
Total Capacity Added			120	268	485	655	655	655	655	655	655	655	655	655	655	655
Net Surplus / (Shortfall)	500	320	300	298	345	255	(95)	(265)	(615)	(865)	(885)	(1 025)	(1 075)	(1 145)	(1 175)	(1 215)

Notes:

Enbridge capacities reflect Terrace III annual capacity

May, 2006

CAPP WESTERN CANADIAN CRUDE OIL SUPPLY FORECAST 2006 - 2020

Table 5

**Summary of Western Canadian Supply and Pipeline Capacity ex Western Canada
Supply Scenario with Condensate Used as Diluent**

Thousand Barrels Per Day

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Light Crude Supply	1 080	1 190	1 170	1 260	1 270	1 260	1 520	1 670	1 800	1 920	1 980	2 080	2 190	2 300	2 310	2 280
Non Enbridge Demand	690	710	720	720	760	770	770	770	770	770	770	770	770	770	770	770
Supply to Enbridge	390	490	450	530	510	490	750	900	1 040	1 150	1 220	1 320	1 430	1 540	1 550	1 520
Enbridge Light Capacity (Line 2 & Line 13)	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580	580
Capacity Surplus / (Shortfall)	190	90	130	50	80	90	(170)	(320)	(460)	(570)	(640)	(740)	(850)	(960)	(970)	(940)
Heavy Crude Supply	1 140	1 230	1 440	1 510	1 710	2 020	2 190	2 220	2 430	2 560	2 510	2 570	2 540	2 500	2 520	2 590
Non Enbridge Demand	320	330	370	370	380	380	380	380	380	380	380	380	380	380	380	380
Supply to Enbridge	810	890	1 070	1 140	1 330	1 640	1 820	1 840	2 050	2 180	2 130	2 200	2 160	2 120	2 150	2 210
Enbridge Heavy Capacity (L3 & L4)	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120	1 120
Capacity Surplus / (Shortfall)	300	220	50	(30)	(220)	(530)	(700)	(730)	(940)	(1 070)	(1 020)	(1 080)	(1 050)	(1 010)	(1 030)	(1 100)
Total Supply to Enbridge	1 200	1 380	1 520	1 670	1 840	2 130	2 570	2 740	3 090	3 330	3 350	3 520	3 590	3 660	3 700	3 730
Total Enbridge Capacity	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 700
Net Surplus / (Shortfall)	500	320	180	30	(140)	(430)	(870)	(1 040)	(1 390)	(1 630)	(1 650)	(1 820)	(1 890)	(1 960)	(2 000)	(2 030)
Planned Western Canadian Capacity Expansion Projects:																
Enbridge Southern Access			120	268	315	315	315	315	315	315	315	315	315	315	315	315
Trans Canada Keystone					170	340	340	340	340	340	340	340	340	340	340	340
Total Capacity Added			120	268	485	655	655	655	655	655	655	655	655	655	655	655
Net Surplus / (Shortfall)	500	320	300	298	345	225	(215)	(385)	(735)	(975)	(995)	(1 165)	(1 235)	(1 305)	(1 345)	(1 375)

Notes:

Enbridge capacities reflect Terrace III annual capacity

May, 2006

Table 6

CAPP CANADIAN CRUDE OIL PRODUCTION FORECAST 2006 - 2020

	Thousand m3 per day					Forecast																
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020		
CONVENTIONAL																						
Light & Medium																						
Alberta	76	70	66	62	59	58	57	55	53	51	49	47	45	43	41	39	37	35	34	32		
B.C.	7	7	6	6	5	5	5	4	4	4	4	4	4	3	3	3	3	3	3	3	3	
Saskatchewan	23	22	22	22	22	22	21	21	20	19	18	18	17	16	15	15	14	13	13	12	12	
Manitoba	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	
N.W.T.	4	4	4	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	
Total Conv. Light and Medium	112	104	99	94	92	90	88	85	82	79	76	73	70	67	64	60	57	54	52	49		
Heavy																						
Alberta Conv. Heavy	38	35	34	34	31	31	30	29	28	27	26	26	25	24	22	21	20	19	18	17	17	
Saskatchewan Conv. Heavy*	45	45	45	45	44	43	42	41	40	38	37	36	35	33	32	30	29	27	26	24	24	
Total Conventional Heavy	83	80	79	79	76	74	72	70	68	66	64	62	59	57	54	51	49	46	44	42	42	
TOTAL CONVENTIONAL	195	184	178	173	167	164	160	155	150	144	139	134	129	124	118	112	106	101	96	91	91	
PENTANES/CONDENSATE	30	26	26	26	25	25	25	25	25	25	25	25	24	24	24	24	24	24	24	24	24	
OIL SANDS																						
Oil Sands Mining	55	70	82	97	88	111	119	131	144	162	188	201	235	270	278	303	317	337	349	361	361	
Oil Sands In-Situ	49	48	55	61	70	83	107	126	152	180	218	240	267	276	277	279	278	277	275	274	274	
TOTAL OIL SANDS	105	118	137	158	157	193	227	257	296	342	406	441	503	546	555	582	596	614	624	635	635	
WESTERN CANADA OIL PRODUCTION	329	328	341	357	350	382	412	438	471	511	569	600	656	694	697	718	726	738	743	750	750	
TOTAL CANADIAN OIL PRODUCTION	353	373	395	407	399	433	472	494	523	562	617	645	698	733	734	752	757	768	771	775	775	

Notes:

* Re-allocates Saskatchewan Area III "Medium" into medium and heavy. Reserves data shows about 17% of Area III is > 900 kg/m³

May, 2006

CAPP WESTERN CANADIAN CRUDE OIL SUPPLY FORECAST 2006 - 2020

Table 7

BLENDING SUPPLY to Trunk Pipelines and Markets

Supply Scenario with Synthetic Crude Used as Diluent

CONVENTIONAL	<i>Thousand m3 per day</i>					Actual	Forecast														
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
Total Light and Medium	112	104	99	94	90	88	86	84	81	77	74	71	68	66	62	59	56	53	51	48	
Net Conventional Heavy to Market	74	70	66	63	60	59	56	54	51	49	47	45	42	39	36	33	30	27	25	22	
TOTAL CONVENTIONAL	185	174	165	157	150	147	143	138	132	126	121	116	110	105	98	92	86	81	75	70	
NGL Mix	6	6	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
OIL SANDS																					
Upgraded Light (Synthetic)	60	74	78	89	79	98	96	112	117	105	129	161	186	207	222	233	246	266	271	269	
Heavy Equivelant																					
Dil Bit Blend and Synthetic Heavy	69	71	84	93	106	120	122	128	128	128	133	140	139	162	159	159	164	172	175	174	
Syn-Bit	1	1	1	11	14	17	50	59	92	151	184	178	215	215	213	230	227	215	218	232	
Total Heavy Equivelant	70	72	85	104	120	136	172	187	220	279	317	318	353	377	372	389	390	386	393	406	
Synthetic Used as Diluent	0	0	1	5	6	7	23	27	42	68	83	80	97	97	96	103	102	97	98	105	
TOTAL OIL SANDS AND UPGRADERS	130	146	164	193	199	234	269	299	337	384	446	479	540	584	594	622	636	653	664	675	
Total Light Supply	178	184	182	187	172	189	186	199	201	186	207	235	258	277	288	296	305	323	325	321	
Total Heavy Supply	144	142	152	167	180	195	228	241	272	328	363	363	395	416	408	422	420	414	417	428	
WESTERN CANADA OIL SUPPLY	321	326	334	354	353	384	415	440	473	514	570	598	653	693	696	718	726	737	743	749	

May, 2006

CAPP WESTERN CANADIAN CRUDE OIL SUPPLY FORECAST 2006 - 2020

Table 8

BLENDING SUPPLY to Trunk Pipelines and Markets
Supply Scenario with Condensate Used as Diluent

	Thousand m3 per day					Forecast															
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
CONVENTIONAL																					
Total Light and Medium	112	104	99	94	90	88	86	84	81	77	74	71	68	66	62	59	56	53	51	48	
Net Conventional Heavy to Market	74	70	66	63	60	59	56	54	51	49	47	45	42	39	36	33	30	27	25	22	
TOTAL CONVENTIONAL	185	174	165	157	150	147	143	138	132	126	121	116	110	105	98	92	86	81	75	70	
NGL Mix	6	6	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	
OIL SANDS																					
Upgraded Light (Synthetic)	60	74	78	89	79	98	96	112	117	119	163	190	215	235	249	268	289	309	313	311	
Heavy Equivelant																					
Dil Bit Blend and Synthetic Heavy	69	71	84	93	106	120	122	128	128	156	206	207	204	226	221	237	259	266	269	267	
Syn-Bit	1	1	1	11	14	17	50	59	92	116	95	101	140	141	142	139	114	103	107	123	
Total Heavy Equivelant	70	72	85	104	120	136	172	187	220	272	302	308	344	368	363	376	373	370	376	390	
Synthetic Used as Diluent	0	0	1	5	6	7	23	27	42	52	43	45	63	64	64	62	51	47	48	55	
TOTAL OIL SANDS AND UPGRADERS	130	146	164	193	199	234	269	299	337	391	465	498	559	603	612	644	662	678	689	701	
Total Light Supply	178	184	182	187	172	189	186	199	201	200	241	265	287	305	315	331	348	366	367	363	
Total Heavy Supply	144	142	152	167	180	195	228	241	272	321	348	353	386	407	399	409	403	397	401	412	
WESTERN CANADA OIL SUPPLY	321	326	334	354	353	384	415	440	473	521	589	618	672	712	714	740	752	763	768	775	

CAPP WESTERN CANADIAN CRUDE OIL SUPPLY FORECAST 2006 - 2020
Summary of Western Canadian Supply and Pipeline Capacity ex Western Canada
Supply Scenario with Synthetic Crude Used as Diluent

Table 9

Thousand m3 Per Day

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Light Crude Supply	172	189	186	200	202	186	207	235	257	277	288	296	305	323	326	321
Non Enbridge Demand	110	113	114	114	121	122	122	122	122	122	122	122	122	122	122	122
Supply to Enbridge	62	78	72	84	81	65	86	114	137	156	167	175	184	202	203	199
Enbridge Light Capacity (Line 2 & Line 13)	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Capacity Surplus / (Shortfall)	30	14	21	8	13	27	6	(22)	(44)	(62)	(75)	(83)	(92)	(110)	(111)	(106)
Heavy Crude Supply	181	195	229	240	272	327	364	362	396	416	407	421	420	413	418	429
Non Enbridge Demand	51	52	59	59	60	60	60	60	60	60	60	60	60	60	60	60
Supply to Enbridge	129	141	170	181	211	269	304	302	335	356	348	362	361	354	358	369
Enbridge Heavy Capacity (L3 & L4)	178	178	178	178	178	178	178	178	178	178	178	178	178	178	178	178
Capacity Surplus / (Shortfall)	48	35	8	(5)	(35)	(91)	(126)	(126)	(159)	(180)	(170)	(184)	(183)	(176)	(180)	(191)
Total Supply to Enbridge	191	219	242	265	292	334	389	416	472	512	515	537	545	556	561	567
Total Enbridge Capacity	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
Net Surplus / (Shortfall)	79	51	29	5	(22)	(64)	(119)	(146)	(202)	(242)	(245)	(267)	(275)	(286)	(291)	(297)
Planned Western Canadian Capacity Expansion Projects:																
Enbridge Southern Access	0	0	19	43	50	50	50	50	50	50	50	50	50	50	50	50
Trans Canada Keystone	0	0	0	0	27	54	54	54	54	54	54	54	54	54	54	54
Total Capacity Added	0	0	19	43	77	104	104	104	104	104	104	104	104	104	104	104
Net Surplus / (Shortfall)	79	51	48	47	55	41	(15)	(42)	(98)	(137)	(141)	(163)	(171)	(182)	(187)	(193)

Notes:

Enbridge capacities reflect Terrace III annual capacity
 May, 2006

CAPP WESTERN CANADIAN CRUDE OIL SUPPLY FORECAST 2006 - 2020
Summary of Western Canadian Supply and Pipeline Capacity ex Western Canada
Supply Scenario with Condensate Used as Diluent

Table 10

Thousand m3 Per Day

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Light Crude Supply	172	189	186	200	202	200	242	265	286	305	315	331	348	365	367	362
Non Enbridge Demand	110	113	114	114	121	122	122	122	122	122	122	122	122	122	122	122
Supply to Enbridge	62	78	72	84	81	78	119	143	165	183	194	210	227	245	246	242
Enbridge Light Capacity (Line 2 & Line 13)	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
Capacity Surplus / (Shortfall)	30	14	21	8	13	14	(27)	(51)	(73)	(91)	(102)	(118)	(135)	(153)	(154)	(149)
Heavy Crude Supply	181	195	229	240	272	321	348	353	386	407	399	408	404	397	400	412
Non Enbridge Demand	51	52	59	59	60	60	60	60	60	60	60	60	60	60	60	60
Supply to Enbridge	129	141	170	181	211	261	289	292	326	346	338	350	343	337	342	351
Enbridge Heavy Capacity (L3 & L4)	178	178	178	178	178	178	178	178	178	178	178	178	178	178	178	178
Capacity Surplus / (Shortfall)	48	35	8	(5)	(35)	(84)	(111)	(116)	(149)	(170)	(162)	(172)	(167)	(160)	(164)	(175)
Total Supply to Enbridge	191	219	242	265	292	338	408	435	491	529	532	559	570	582	588	593
Total Enbridge Capacity	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270	270
Net Surplus / (Shortfall)	79	51	29	5	(22)	(68)	(138)	(165)	(221)	(259)	(262)	(289)	(300)	(311)	(318)	(323)
Planned Western Canadian Capacity Expansion Projects:																
Enbridge Southern Access	0	0	19	43	50	50	50	50	50	50	50	50	50	50	50	50
Trans Canada Keystone	0	0	0	0	27	54	54	54	54	54	54	54	54	54	54	54
Total Capacity Added	0	0	19	43	77	104	104	104	104	104	104	104	104	104	104	104
Net Surplus / (Shortfall)	79	51	48	47	55	36	(34)	(61)	(117)	(155)	(158)	(185)	(196)	(207)	(214)	(219)

Notes:

Enbridge capacities reflect Terrace III annual capacity
 May, 2006