

**CHAPMAN PETROLEUM ENGINEERING LTD.  
CRUDE OIL  
HISTORICAL, CONSTANT, CURRENT AND FUTURE PRICES**

April 1, 2017

<u>Date</u>	<b>WTI [1] \$US/STB</b>	<b>Brent Spot (ICE)[2] \$US/STB</b>	<b>AB Synthetic Crude Price [3] \$CDN/STB</b>	<b>Western Canada Select [4] \$CDN/STB</b>	<b>Exchange Rate \$US/\$CDN</b>
<b>HISTORICAL PRICES</b>					
2009	61.95	61.74	76.77	53.04	0.88
2010	79.48	79.61	80.56	66.58	0.97
2011	94.88	111.26	102.45	77.43	1.01
2012	94.05	111.63	92.56	71.70	1.00
2013	97.98	108.56	100.17	75.76	0.97
2014	93.12	99.43	101.07	82.07	0.91
2015	48.69	53.32	62.17	46.23	0.78
2016	43.17	45.06	57.98	38.90	0.76
2017 3 mos.	51.82	54.60	70.31	50.53	0.76
<b>CONSTANT PRICES (The average of the first-day-of-the-month price for the preceding 12 months-SEC)</b>					
	47.49	49.52	62.46	44.01	0.76
<b>FORECAST PRICES</b>					
2017	<b>55.00</b>	57.20	73.20	51.24	0.76
2018	<b>60.00</b>	62.40	75.83	56.11	0.80
2019	<b>65.00</b>	67.60	79.14	58.57	0.83
2020	<b>70.00</b>	72.80	85.17	63.02	0.83
2021	<b>72.50</b>	75.40	86.12	63.73	0.85
2022	<b>75.00</b>	78.00	89.07	65.91	0.85
2023	<b>77.50</b>	80.60	92.01	68.08	0.85
2024	<b>80.00</b>	83.20	94.95	70.26	0.85
2025	<b>82.50</b>	85.80	97.89	72.44	0.85
2026	<b>85.00</b>	88.40	100.83	74.61	0.85
2027	<b>87.50</b>	91.00	103.77	76.79	0.85
2028	<b>89.25</b>	92.82	105.83	78.31	0.85
2029	<b>91.04</b>	94.68	107.93	79.87	0.85
2030	<b>92.86</b>	96.57	110.07	81.45	0.85
2031	<b>94.71</b>	98.50	112.26	83.07	0.85
2032	<b>96.61</b>	100.47	114.49	84.72	0.85

**Constant thereafter**

- Notes:
- [1] West Texas Intermediate quality (D2/S2) crude (40API) landed in Cushing, Oklahoma.
  - [2] The Brent Spot price is estimated based on historic data.
  - [3] Equivalent price for Light Sweet Crude (D2/S2) & Synthetic Crude landed in Edmonton.
  - [4] Western Canada Select (20.5API), spot price for B.C., Alberta, Saskatchewan, and Manitoba.

**CHAPMAN PETROLEUM ENGINEERING LTD.  
NATURAL GAS & BY-PRODUCTS  
HISTORICAL, CONSTANT, CURRENT AND FUTURE PRICES**

April 1, 2017

<u>Date</u>	Alberta GRP [1] \$CDN/MMBTU	\$CDN/GJ	AECO Spot Gas[2] \$CDN/MMBTU	Henry Hub Gas[3] \$US/MMBTU	Propane C3 [4] \$CDN/BBL	Butane C4 [4] \$CDN/BBL	Condensate (Pentanes Plus) C5+[5] \$CDN/BBL
<b>HISTORICAL PRICES</b>							
2009	3.85	3.65	3.99	3.94	38.34	49.34	67.52
2010	3.93	3.73	4.02	4.39	44.40	57.99	77.51
2011	3.46	3.28	3.63	3.99	50.17	70.93	97.21
2012	2.25	2.13	2.39	2.70	47.40	64.48	96.26
2013	2.98	2.82	3.17	3.84	50.09	91.43	100.72
2014	4.22	4.00	4.51	4.36	46.85	62.26	108.28
2015	2.62	2.48	2.71	2.69	6.17	36.81	59.14
2016	2.03	1.93	2.18	3.31	6.71	29.81	55.62
2017 3 mos.	2.44	2.31	2.68	2.99	10.98	32.97	69.26
<b>CONSTANT PRICES (The average of the first-day-of-the-month price for the preceding 12 months-SEC)</b>							
	2.15	2.04	2.39	2.75	12.18	34.29	61.10
<b>FORECAST PRICES</b>							
2017	2.96	2.81	<b>3.25</b>	4.34	25.62	43.92	69.54
2018	3.00	2.85	<b>3.30</b>	4.39	26.54	45.50	72.04
2019	3.09	2.93	<b>3.40</b>	4.49	27.70	47.49	75.19
2020	3.28	3.11	<b>3.60</b>	4.69	29.81	51.10	80.91
2021	3.37	3.19	<b>3.70</b>	4.79	30.14	51.67	81.82
2022	3.55	3.37	<b>3.90</b>	4.99	31.17	53.44	84.61
2023	3.69	3.50	<b>4.05</b>	5.14	32.20	55.20	87.41
2024	3.91	3.71	<b>4.30</b>	5.39	33.23	56.97	90.20
2025	4.05	3.84	<b>4.45</b>	5.54	34.26	58.73	92.99
2026	4.10	3.88	<b>4.50</b>	5.59	35.29	60.50	95.79
2027	4.19	3.97	<b>4.60</b>	5.69	36.32	62.26	98.58
2028	4.28	4.06	<b>4.70</b>	5.79	37.04	63.50	100.54
2029	4.37	4.14	<b>4.80</b>	5.89	37.78	64.76	102.53
2030	4.41	4.19	<b>4.85</b>	5.94	38.53	66.04	104.57
2031	4.50	4.27	<b>4.95</b>	6.04	39.29	67.35	106.64
2032	4.64	4.40	<b>5.10</b>	6.19	40.07	68.69	108.76

Constant thereafter

- Notes:
- [1] Alberta Gas Reference Price (GRP) represents the average of all system and direct (spot and firm) sales.
  - [2] The AECO C Spot price, which is the Alberta gas trading price
  - [3] Henry Hub Spot is natural gas traded on the New York Mercantile Exchange (NYMEX).
  - [4] Alberta average field price for Propane and Butane purchased at field locations.
  - [5] Edmonton condensate from GMPFirstEnergy.