

Table 1
GLJ Petroleum Consultants
Crude Oil and Natural Gas Liquids
Price Forecast
Effective April 1, 2019

Year	Inflation %	CAD/USD Exchange Rate USD/CAD	NYMEX WTI Near Month Contract Crude Oil at Cushing, OK		Brent Blend Crude Oil FOB North Sea	MSW, Light Crude Oil (40 API, 0.3%S) at Edmonton	Bow River Crude Oil Stream Quality at Hardisty	WCS Crude Oil Stream Quality at Hardisty	Heavy Crude Oil Proxy (12 API) at Hardisty	Light Sour Crude Oil (35 API, 1.2%S) at Cromer	Medium Crude Oil (29 API, 2.0%S) at Cromer	Alberta Natural Gas Liquids (Then Current Dollars)				
			Constant 2019 \$ USD/bbl	Then Current USD/bbl	Then Current USD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Then Current CAD/bbl	Spec Ethane CAD/bbl	Edmonton Propane CAD/bbl	Edmonton Butane CAD/bbl	Edmonton C5+ Stream Quality CAD/bbl
2009	0.4	0.8798	72.29	61.78	62.50	66.32	60.18	58.66	54.46	63.84	62.96	N/A	38.03	48.17	68.17	
2010	1.8	0.9711	92.71	79.52	80.25	77.87	68.45	67.27	60.76	76.58	73.76	N/A	46.84	65.91	84.27	
2011	2.9	1.0115	108.97	95.12	110.86	95.53	78.59	77.14	67.64	92.35	88.33	N/A	53.66	74.42	104.17	
2012	1.5	1.0009	104.86	94.21	111.71	86.60	74.42	73.13	63.64	84.51	81.37	N/A	29.04	66.70	100.84	
2013	0.9	0.9711	107.42	97.96	108.77	93.47	76.33	75.01	65.11	92.30	88.13	N/A	38.88	68.81	104.70	
2014	1.9	0.9055	101.01	93.00	99.71	94.58	81.08	81.03	73.73	92.68	89.67	N/A	45.53	69.20	102.44	
2015	1.1	0.7831	51.98	48.78	53.60	57.20	45.50	44.82	39.25	55.49	51.87	N/A	6.49	36.75	60.42	
2016	1.4	0.7551	45.71	43.38	45.05	53.08	39.83	38.96	32.78	51.46	48.84	N/A	13.40	34.49	56.25	
2017	1.6	0.7712	52.93	50.94	54.80	62.84	50.91	50.53	44.63	62.09	59.96	N/A	28.57	44.46	66.86	
2018	2.3	0.7719	66.21	64.73	71.55	69.22	49.03	49.52	39.80	72.94	69.60	N/A	26.79	32.96	78.60	
2019 Q1 (est)	1.7	0.7524	54.24	54.24	63.43	65.57	57.48	55.72	51.50	66.81	64.27	N/A	16.70	5.79	66.45	
2019 Q2	0.0	0.750	61.00	61.00	69.00	72.00	65.83	65.33	59.33	71.28	68.40	4.38	19.44	9.36	75.33	
2019 Q3	0.0	0.750	61.00	61.00	69.00	72.00	60.50	60.00	52.87	71.28	68.40	5.11	23.04	18.00	75.33	
2019 Q4	0.0	0.750	61.00	61.00	69.00	72.00	59.17	58.67	51.00	71.28	68.40	5.98	25.92	25.20	75.33	
2019 Full Year	0.4	0.751	59.31	59.31	67.61	70.39	60.75	59.93	53.68	70.16	67.37	N/A	21.28	14.59	73.11	
2019 Q2-Q4	0.0	0.750	61.00	61.00	69.00	72.00	61.83	61.33	54.40	71.28	68.40	5.15	22.80	17.52	75.33	
2020	2.0	0.770	61.27	62.50	68.50	72.73	57.64	57.14	49.91	72.00	69.09	6.83	28.36	32.73	77.92	
2021	2.0	0.790	63.44	66.00	71.00	75.95	62.53	62.03	54.95	75.19	72.15	7.96	32.66	41.77	82.28	
2022	2.0	0.800	65.02	69.00	73.00	79.38	66.75	66.25	59.53	78.58	75.41	8.82	38.10	51.59	85.31	
2023	2.0	0.800	66.52	72.00	76.00	83.13	70.50	70.00	63.19	82.29	78.97	9.69	39.90	54.03	89.38	
2024	2.0	0.800	67.93	75.00	79.00	86.88	74.25	73.75	66.94	86.01	82.53	10.15	41.70	56.47	93.13	
2025	2.0	0.800	68.37	77.00	81.00	89.38	76.75	76.25	69.44	88.48	84.91	10.61	42.90	58.09	95.63	
2026	2.0	0.800	68.77	79.00	83.00	91.88	79.25	78.75	71.94	90.96	87.28	10.86	44.10	59.72	98.13	
2027	2.0	0.800	69.00	80.84	84.84	94.17	81.55	81.05	74.24	93.23	89.47	11.08	45.20	61.21	100.42	
2028	2.0	0.800	69.00	82.46	86.46	96.20	83.58	83.08	76.26	95.24	91.39	11.30	46.18	62.53	102.45	
2029+	2.0	0.800	69.00	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	

Historical futures contract price is an average of the daily settlement price of the near month contract over the calendar month.

Table 2
GLJ Petroleum Consultants
Natural Gas and Sulphur
Price Forecast
 Effective April 1, 2019

Year	NYMEX Henry Hub		Midwest Price at Chicago	AECO/NIT Spot	Alliance Transfer Pool Spot	Alberta Plant Gate			Saskatchewan Plant Gate			British Columbia		Sulphur FOB Vancouver	Alberta Sulphur at Plant Gate	
	Near Month Contract		Then	Then	Then	Spot			SaskEnergy CAD/MMBtu	Spot CAD/MMBtu	Sumas Spot USD/MMBtu	Westcoast	Spot	USD/lt	CAD/lt	
	Constant	Then	Current	Current	Current	Constant	Current	ARP				Station 2	Plant Gate			
	2019 \$ USD/MMBtu	Current USD/MMBtu	Current USD/MMBtu	Current CAD/MMBtu	Current CAD/MMBtu	2019 \$ CAD/MMBtu	Current CAD/MMBtu	CAD/MMBtu	CAD/MMBtu	CAD/MMBtu	CAD/MMBtu	CAD/MMBtu	CAD/MMBtu			
2009	4.88	4.16	4.05	3.99	N/A	4.44	3.79	3.85	3.87	3.83	3.80	3.90	3.70	57.06	24.57	
2010	5.12	4.40	4.53	4.01	N/A	4.41	3.78	3.77	3.96	3.85	4.12	3.78	3.63	88.94	48.26	
2011	4.62	4.03	4.21	3.62	N/A	3.92	3.42	3.46	3.57	3.58	3.90	3.33	3.18	217.16	171.93	
2012	3.14	2.83	2.92	2.40	N/A	2.46	2.21	2.25	2.31	2.26	2.70	2.30	2.12	201.03	157.91	
2013	4.08	3.73	3.81	3.18	N/A	3.24	2.96	2.98	3.09	3.10	3.71	3.14	2.94	105.74	74.02	
2014	4.64	4.28	5.36	4.50	N/A	4.62	4.26	4.22	4.39	4.42	4.37	4.29	4.07	145.41	110.41	
2015	2.80	2.63	2.85	2.70	N/A	2.63	2.47	2.56	2.71	2.61	2.31	1.80	1.59	139.61	128.14	
2016	2.69	2.55	2.48	2.18	2.36	2.05	1.94	1.93	2.18	2.09	2.18	1.77	1.60	82.96	60.06	
2017	3.14	3.02	3.04	2.19	2.16	2.01	1.93	2.22	2.41	2.29	2.62	1.56	1.34	105.62	61.12	
2018	3.14	3.07	3.01	1.54	2.25	1.35	1.33	1.36	1.63	2.72	3.60	1.24	1.74	135.68	80.20	
2019 Q1 (est)	2.88	2.88	3.24	2.82	2.65	2.58	2.58	2.10	2.20	2.87	14.52	1.36	2.00	120.00	84.49	
2019 Q2	2.75	2.75	2.65	1.47	2.22	1.26	1.26	1.26	1.36	1.57	2.45	1.02	0.81	130.00	98.33	
2019 Q3	2.80	2.80	2.70	1.68	2.18	1.47	1.47	1.47	1.57	1.78	2.40	1.33	1.12	130.00	98.33	
2019 Q4	2.90	2.90	2.80	1.93	2.18	1.72	1.72	1.72	1.82	2.03	2.50	1.63	1.43	130.00	98.33	
2019 Full Year	2.83	2.83	2.85	1.98	2.31	1.76	1.76	1.64	1.74	2.06	5.47	1.34	1.34	127.50	94.87	
2019 Q2-Q4	2.82	2.82	2.72	1.69	2.19	1.48	1.48	1.48	1.58	1.79	2.45	1.33	1.12	130.00	98.33	
2020	2.94	3.00	2.90	2.18	2.38	1.92	1.96	1.96	2.06	2.08	2.55	1.93	1.72	132.60	97.21	
2021	3.03	3.15	3.05	2.51	2.71	2.20	2.29	2.29	2.39	2.41	2.70	2.26	2.05	135.25	96.20	
2022	3.11	3.30	3.20	2.76	2.96	2.39	2.54	2.54	2.64	2.66	2.85	2.51	2.30	137.96	97.45	
2023	3.14	3.40	3.30	3.02	3.22	2.57	2.79	2.79	2.89	2.92	2.95	2.82	2.60	140.72	100.90	
2024	3.17	3.50	3.40	3.15	3.35	2.64	2.92	2.92	3.02	3.05	3.05	3.05	2.83	143.53	104.41	
2025	3.20	3.60	3.50	3.29	3.49	2.71	3.05	3.05	3.15	3.19	3.15	3.19	2.97	146.40	108.00	
2026	3.20	3.68	3.58	3.36	3.56	2.72	3.12	3.12	3.22	3.26	3.23	3.26	3.04	149.32	111.65	
2027	3.20	3.75	3.65	3.42	3.62	2.72	3.18	3.18	3.28	3.32	3.30	3.32	3.11	152.31	115.39	
2028	3.20	3.82	3.72	3.49	3.69	2.72	3.25	3.25	3.35	3.39	3.37	3.39	3.17	152.31	115.39	
2029+	3.20	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	2.72	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr

Unless otherwise stated, the gas price reference point is the receipt point on the applicable provincial gas transmission system known as the plant gate.
 The plant gate price represents the price before raw gathering and processing charges are deducted.

Table 3
GLJ Petroleum Consultants
International
Price Forecast
 Effective April 1, 2019

Year	Inflation %	Exchange Rates			NYMEX WTI Near Month Contract Crude Oil at Cushing, OK		Light Louisiana Sweet Crude Oil		Maya Crude Oil		Brent Blend Crude Oil FOB North Sea		NYMEX Henry Hub Near Month Contract		National Balancing Point (UK)	
		CADUSD Exchange Rate USD/CAD	GBPUSD Exchange Rate USD/GBP	EURUSD Exchange Rate USD/EUR	Then Current USD/bbl	Then Current CAD/bbl	Then Current USD/bbl	Then Current CAD/bbl	Then Current USD/bbl	Then Current CAD/bbl	Then Current USD/bbl	Then Current CAD/bbl	Then Current USD/MMBtu	Then Current CAD/MMBtu	Then Current USD/MMBtu	Then Current CAD/MMBtu
2009	0.4	0.8798	1.5649	1.3930	61.78	69.57	64.31	72.52	56.46	63.55	62.50	70.47	4.16	4.75	4.95	5.68
2010	1.8	0.9711	1.5465	1.3274	79.52	81.85	82.78	85.20	70.29	72.35	80.25	82.58	4.40	4.53	6.39	6.58
2011	2.9	1.0115	1.6038	1.3920	95.12	94.02	112.33	111.03	98.60	97.52	110.86	109.57	4.03	3.98	9.35	9.25
2012	1.5	1.0009	1.5854	1.2861	94.21	94.11	111.77	111.62	99.60	99.50	111.71	111.57	2.83	2.82	9.38	9.37
2013	0.9	0.9711	1.5645	1.3285	97.96	100.95	106.19	109.32	97.26	100.13	108.77	112.04	3.73	3.84	10.50	10.82
2014	1.9	0.9055	1.6472	1.3288	93.00	102.50	94.24	103.88	85.79	94.53	99.71	109.89	4.28	4.72	8.25	9.12
2015	1.1	0.7831	1.5283	1.1097	48.78	62.12	49.43	62.97	44.02	55.99	53.60	68.23	2.63	3.36	6.52	8.31
2016	1.4	0.7551	1.3550	1.1066	43.38	57.33	45.08	59.58	36.40	48.09	45.05	59.54	2.55	3.38	4.66	6.18
2017	1.6	0.7712	1.2890	1.1297	50.94	66.09	54.06	70.09	46.95	60.85	54.80	71.06	3.02	3.92	5.88	7.61
2018	2.3	0.7719	1.3357	1.1816	64.73	83.83	71.40	92.47	62.39	80.88	71.55	92.71	3.07	3.98	7.87	10.22
2019 Q1 (est)	1.7	0.752	1.302	1.136	54.24	72.09	61.44	81.66	55.40	73.55	63.43	84.30	2.88	3.83	6.45	8.58
2019 Q2	0.0	0.750	1.310	1.140	61.00	81.33	66.50	88.67	60.03	80.04	69.00	92.00	2.75	3.67	5.00	6.67
2019 Q3	0.0	0.750	1.310	1.140	61.00	81.33	66.50	88.67	60.03	80.04	69.00	92.00	2.80	3.73	5.75	7.67
2019 Q4	0.0	0.750	1.310	1.140	61.00	81.33	66.50	88.67	60.03	80.04	69.00	92.00	2.90	3.87	6.60	8.80
2019 Full Year	0.4	0.751	1.308	1.139	59.31	79.02	65.24	86.92	58.87	78.42	67.61	90.07	2.83	3.77	5.95	7.93
2019 Q2-Q4	0.0	0.750	1.310	1.140	61.00	81.33	66.50	88.67	60.03	80.04	69.00	92.00	2.82	3.76	5.78	7.71
2020	2.0	0.770	1.300	1.150	62.50	81.17	66.50	86.36	59.60	77.40	68.50	88.96	3.00	3.90	7.00	9.09
2021	2.0	0.790	1.300	1.150	66.00	83.54	70.00	88.61	61.77	78.19	71.00	89.87	3.15	3.99	7.30	9.24
2022	2.0	0.800	1.300	1.150	69.00	86.25	73.00	91.25	63.51	79.39	73.00	91.25	3.30	4.12	7.60	9.50
2023	2.0	0.800	1.300	1.150	72.00	90.00	76.00	95.00	66.12	82.65	76.00	95.00	3.40	4.25	7.60	9.50
2024	2.0	0.800	1.300	1.150	75.00	93.75	79.00	98.75	68.73	85.91	79.00	98.75	3.50	4.38	7.60	9.50
2025	2.0	0.800	1.300	1.150	77.00	96.25	81.00	101.25	70.47	88.09	81.00	101.25	3.60	4.50	7.60	9.50
2026	2.0	0.800	1.300	1.150	79.00	98.75	83.00	103.75	72.21	90.26	83.00	103.75	3.68	4.60	7.75	9.69
2027	2.0	0.800	1.300	1.150	80.84	101.05	84.84	106.05	73.81	92.26	84.84	106.05	3.75	4.69	7.90	9.88
2028	2.0	0.800	1.300	1.150	82.46	103.08	86.46	108.08	75.22	94.03	86.46	108.08	3.82	4.77	7.90	9.88
2029+	2.0	0.800	1.300	1.150	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr

Historical futures contract price is an average of the daily settlement price of the near month contract over the calendar month.

Table 4
 GLJ Petroleum Consultants
US Liquids and Natural Gas
Price Forecast
 Effective April 1, 2019

Year	US Natural Gas Liquids (Then Current Dollars)					US Natural Gas (Then Current Dollars)				
	Conway			Mont Belvieu		Rockies			Algonquin City-Gates	
	80%-20% E/P Mix USD/bbl	Propane USD/bbl	Butane USD/bbl	Condensate USD/bbl	Ethane USD/bbl	Propane USD/bbl	Butane USD/bbl	Condensate USD/bbl	Natural Gas USD/MMBtu	Natural Gas USD/MMBtu
2019 Q2	6.88	27.45	36.60	55.51	11.55	30.50	39.65	57.34	2.45	4.15
2019 Q3	7.00	27.45	36.60	55.51	11.76	30.50	39.65	57.34	2.50	4.20
2019 Q4	7.25	27.45	36.60	55.51	12.18	30.50	39.65	57.34	2.60	4.30
2019 Q2-Q4	7.04	27.45	36.60	55.51	11.83	30.50	39.65	57.34	2.52	4.22
2020	6.90	31.25	40.63	58.13	11.25	37.50	43.75	59.38	2.70	4.40
2021	7.25	33.00	42.90	61.38	11.81	39.60	46.20	62.70	2.85	4.35
2022	7.59	34.50	44.85	64.17	12.38	41.40	48.30	65.55	3.00	4.30
2023	7.82	36.00	46.80	66.96	12.75	43.20	50.40	68.40	3.10	4.40
2024	8.05	37.50	48.75	69.75	13.13	45.00	52.50	71.25	3.20	4.50
2025	8.28	38.50	50.05	71.61	13.50	46.20	53.90	73.15	3.30	4.60
2026	8.46	39.50	51.35	73.47	13.80	47.40	55.30	75.05	3.38	4.68
2027	8.63	40.42	52.55	75.18	14.06	48.50	56.59	76.80	3.45	4.75
2028	8.79	41.23	53.60	76.69	14.32	49.48	57.72	78.34	3.52	4.82
2029	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr

Butane prices at Conway and Mont Belvieu represent a blended price of two thirds normal butane and one third iso-butane.

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