

Table 1
GLJ Petroleum Consultants
Crude Oil and Natural Gas Liquids
Price Forecast
Effective October 1, 2018

Year	Inflation %	CADUSD Exchange Rate USD/CAD	NYMEX WTI Near Month Contract Crude Oil at Cushing, OK		Brent Blend Crude Oil FOB North Sea Then	Light, Sweet Crude Oil (40 API, 0.3%S) at Edmonton Then	Bow River Crude Oil Stream Quality at Hardisty Then	WCS Crude Oil Stream Quality at Hardisty Then	Heavy Crude Oil Proxy (12 API) at Hardisty Then	Light Sour Crude Oil (35 API, 1.2%S) at Cromer Then	Medium Crude Oil (29 API, 2.0%S) at Cromer Then	Alberta Natural Gas Liquids (Then Current Dollars)					
			Constant 2018 \$ USD/bbl	Then USD/bbl	Current USD/bbl	Current CAD/bbl	Current CAD/bbl	Current CAD/bbl	Current CAD/bbl	Current CAD/bbl	Current CAD/bbl	Current CAD/bbl	Current CAD/bbl	Spec Ethane CAD/bbl	Edmonton Propane CAD/bbl	Edmonton Butane CAD/bbl	Edmonton C5+ Stream Quality CAD/bbl
2008	2.4	0.9428	116.73	99.64	98.30	102.90	84.31	82.95	74.94	96.08	93.10	N/A	58.38	75.33	104.78		
2009	0.4	0.8798	70.68	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	90.66	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	106.56	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	102.54	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	105.03	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	98.75	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	50.82	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	44.69	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	51.77	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 Q1	2.1	0.7909	62.87	62.87	67.20	72.13	47.82	48.05	37.56	71.46	67.46	N/A	33.06	48.31	79.70		
2018 Q2	2.3	0.7747	67.83	67.83	74.99	78.47	60.50	60.73	51.95	77.74	74.61	N/A	25.14	40.79	86.64		
2018 Q3 (est.)	2.9	0.7649	69.31	69.31	75.76	82.09	62.42	62.73	57.65	83.17	82.62	N/A	25.30	30.73	86.87		
2018 Q4	0.0	0.7700	72.00	72.00	80.00	80.52	55.05	54.55	53.55	78.91	74.88	5.56	26.57	30.60	87.66		
2018 Full Year	1.8	0.7751	68.00	68.00	74.49	78.30	56.45	56.51	50.18	77.82	74.89	N/A	27.52	37.61	85.22		
2019	2.0	0.7700	69.61	71.00	77.50	81.82	64.14	63.64	55.43	80.18	76.09	6.06	31.09	40.91	87.66		
2020	2.0	0.7850	66.32	69.00	74.50	81.53	65.47	64.97	57.47	79.90	75.82	7.59	35.06	44.84	86.62		
2021	2.0	0.8000	65.02	69.00	73.25	81.25	68.00	67.50	61.06	79.63	75.56	8.96	37.38	48.75	85.63		
2022	2.0	0.8100	65.59	71.00	74.00	82.72	69.64	69.14	62.77	81.06	76.93	9.72	39.70	57.90	87.04		
2023	2.0	0.8200	66.57	73.50	76.50	84.76	71.84	71.34	65.04	83.06	78.82	10.18	42.38	59.33	89.02		
2024	2.0	0.8300	67.49	76.00	79.00	86.75	73.99	73.49	67.25	85.01	80.67	10.49	43.37	60.72	90.96		
2025	2.0	0.8300	68.34	78.50	81.50	89.76	77.01	76.51	70.27	87.96	83.48	10.95	44.88	62.83	93.98		
2026	2.0	0.8300	69.13	81.00	84.00	92.77	80.02	79.52	73.28	90.92	86.28	11.18	46.39	64.94	96.99		
2027	2.0	0.8300	70.00	83.66	86.66	95.98	83.22	82.72	76.48	94.06	89.26	11.42	47.99	67.18	100.19		
2028+	2.0	0.8300	70.00	+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 October 1, 2018

Year	NYMEX Henry Hub Near Month Contract		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
	Constant	Then	Then	Then	Then	Constant	Then	ARP	SaskEnergy	Spot	Sumas Spot	Westcoast Station 2	Spot Plant Gate		
	2018 \$	Current	Current	Current	Current	2018 \$	Current		CAD/MMBtu	CAD/MMBtu	USD/MMBtu	CAD/MMBtu	CAD/MMBtu	USD/lt	CAD/lt
	USD/MMBtu	USD/MMBtu	USD/MMBtu	CAD/MMBtu	CAD/MMBtu	CAD/MMBtu	CAD/MMBtu	CAD/MMBtu							
2008	10.42	8.90	8.91	8.16	N/A	9.29	7.94	7.88	8.07	8.04	6.47	8.21	7.99	497.39	488.63
2009	4.77	4.16	4.05	3.99	N/A	4.34	3.79	3.85	3.87	3.83	3.80	3.90	3.70	57.06	24.57
2010	5.01	4.40	4.53	4.01	N/A	4.31	3.78	3.77	3.96	3.85	4.12	3.78	3.63	88.94	48.26
2011	4.51	4.03	4.21	3.62	N/A	3.83	3.42	3.46	3.57	3.58	3.90	3.33	3.18	217.16	171.93
2012	3.07	2.83	2.92	2.40	N/A	2.41	2.21	2.25	2.31	2.26	2.70	2.30	2.12	201.03	157.91
2013	3.99	3.73	3.81	3.18	N/A	3.17	2.96	2.98	3.09	3.10	3.71	3.14	2.94	105.74	74.02
2014	4.54	4.28	5.36	4.50	N/A	4.52	4.26	4.22	4.39	4.42	4.37	4.29	4.07	145.41	110.41
2015	2.74	2.63	2.85	2.70	N/A	2.57	2.47	2.56	2.71	2.61	2.31	1.80	1.59	139.61	128.14
2016	2.63	2.55	2.48	2.18	2.36	2.00	1.94	1.93	2.18	2.09	2.18	1.77	1.60	82.96	60.06
2017	3.07	3.02	3.04	2.19	2.16	1.96	1.93	2.22	2.41	2.29	2.62	1.56	1.34	85.75	61.12
2018 Q1	2.84	2.84	2.74	2.06	2.54	1.85	1.85	1.77	2.05	2.36	2.29	1.90	1.62	90.00	63.83
2018 Q2	2.83	2.83	2.73	1.25	1.58	1.04	1.04	0.98	1.14	2.14	1.60	2.17	1.90	90.00	66.19
2018 Q3 (est.)	2.86	2.86	2.76	1.27	1.88	1.07	1.07	1.12	1.59	2.69	2.29	1.72	1.07	90.00	67.67
2018 Q4	3.10	3.10	3.00	1.81	1.81	1.60	1.60	1.60	1.70	2.36	2.60	1.76	1.55	90.00	66.88
2018 Full Year	2.91	2.91	2.81	1.60	1.95	1.39	1.39	1.37	1.62	2.39	2.20	1.89	1.53	90.00	66.14
2019	2.84	2.90	2.80	1.96	1.96	1.71	1.74	1.74	1.84	2.06	2.40	1.76	1.55	100.00	79.87
2020	3.08	3.20	3.10	2.41	2.41	2.10	2.18	2.18	2.28	2.31	2.70	2.16	1.94	102.00	79.94
2021	3.20	3.40	3.30	2.81	2.81	2.43	2.58	2.58	2.68	2.70	2.90	2.55	2.34	104.04	80.05
2022	3.28	3.55	3.45	3.02	3.02	2.58	2.79	2.79	2.89	2.92	3.05	2.77	2.56	106.12	81.01
2023	3.35	3.70	3.60	3.16	3.16	2.65	2.92	2.92	3.02	3.06	3.20	2.91	2.69	108.24	82.00
2024	3.37	3.80	3.70	3.25	3.25	2.68	3.01	3.01	3.11	3.15	3.30	3.00	2.79	110.40	83.01
2025	3.40	3.90	3.80	3.38	3.38	2.74	3.15	3.15	3.25	3.28	3.40	3.13	2.92	112.62	85.69
2026	3.40	3.98	3.88	3.45	3.45	2.74	3.21	3.21	3.31	3.35	3.48	3.20	2.99	114.87	88.40
2027	3.40	4.06	3.96	3.52	3.52	2.75	3.28	3.28	3.38	3.42	3.56	3.27	3.06	117.17	91.17
2028+	3.40	+2.0%/yr	+2.0%/yr	+2.0%/yr	+2.0%/yr	2.75	+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 October 1, 2018

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	GBPUSD Exchange Rate	EURUSD Exchange Rate	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current	Then Current
		USD/CAD	USD/GBP	USD/EUR	USD/bbl	CAD/bbl	USD/bbl	CAD/bbl	USD/bbl	CAD/bbl	USD/bbl	CAD/bbl	USD/MMBtu	CAD/MMBtu	USD/MMBtu	CAD/MMBtu
2008	2.4	0.9428	1.8514	1.4573	99.64	104.27	102.31	107.04	83.90	87.62	98.30	102.81	8.90	9.36	11.41	12.12
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 Q1	2.1	0.7909	1.3920	1.2293	62.87	79.51	66.02	83.48	57.57	72.79	67.20	84.98	2.84	3.59	7.10	8.98
2018 Q2	2.3	0.7747	1.3611	1.1923	67.83	87.58	72.85	94.09	61.90	79.96	74.99	96.84	2.83	3.66	7.19	9.28
2018 Q3 (est.)	2.9	0.7649	1.3032	1.1631	69.31	90.62	73.65	96.30	65.34	85.43	75.76	99.05	2.86	3.73	7.66	10.02
2018 Q4	0.0	0.770	1.330	1.170	72.00	93.51	77.50	100.65	69.60	90.39	80.00	103.90	3.10	4.03	9.50	12.34
2018 Full Year	1.8	0.78	1.35	1.19	68.00	87.80	72.51	93.63	63.60	82.14	74.49	96.19	2.91	3.75	7.86	10.15
2019	2.0	0.770	1.320	1.160	71.00	92.21	76.50	99.35	67.42	87.56	77.50	100.65	2.90	3.77	8.25	10.71
2020	2.0	0.785	1.300	1.150	69.00	87.90	73.00	92.99	64.82	82.57	74.50	94.90	3.20	4.08	7.75	9.87
2021	2.0	0.800	1.300	1.150	69.00	86.25	73.00	91.25	63.73	79.66	73.25	91.56	3.40	4.25	7.65	9.56
2022	2.0	0.810	1.300	1.150	71.00	87.65	75.00	92.59	64.38	79.48	74.00	91.36	3.55	4.38	7.60	9.38
2023	2.0	0.820	1.300	1.150	73.50	89.63	77.50	94.51	66.55	81.16	76.50	93.29	3.70	4.51	7.60	9.27
2024	2.0	0.830	1.300	1.150	76.00	91.57	80.00	96.39	68.73	82.81	79.00	95.18	3.80	4.58	7.60	9.16
2025	2.0	0.830	1.300	1.150	78.50	94.58	82.50	99.40	70.90	85.43	81.50	98.19	3.90	4.70	7.60	9.16
2026	2.0	0.830	1.300	1.150	81.00	97.59	85.00	102.41	73.08	88.05	84.00	101.20	3.98	4.80	7.75	9.34
2027	2.0	0.830	1.300	1.150	83.66	100.80	87.66	105.61	75.39	90.84	86.66	104.41	4.06	4.89	7.90	9.52
2028+	2.0	0.830	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 October 1, 2018

Year	US Natural Gas Liquids (Then Current Dollars)					US Natural Gas (Then Current Dollars)					
	Conway			Mont Belvieu					Algonquin	Rockies	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	Natural Gas USD/MMBtu
2018 Q4	6.20	46.80	43.20	57.60	15.50	44.64	54.00	68.40	2.80	4.50	
2019	7.25	36.92	46.15	66.03	10.15	42.60	49.70	68.87	2.60	4.30	
2020	8.00	35.88	44.85	64.17	11.20	41.40	48.30	66.93	2.90	4.60	
2021	8.50	35.88	44.85	64.17	11.90	41.40	48.30	66.93	3.10	4.60	
2022	8.88	36.92	46.15	66.03	12.43	42.60	49.70	68.87	3.25	4.55	
2023	9.25	38.22	47.77	68.36	12.95	44.10	51.45	71.29	3.40	4.70	
2024	9.50	39.52	49.40	70.68	13.30	45.60	53.20	73.72	3.50	4.80	
2025	9.75	40.82	51.02	73.01	13.65	47.10	54.95	76.15	3.60	4.90	
2026	9.95	42.12	52.65	75.33	13.93	48.60	56.70	78.57	3.68	4.98	
2027	10.15	43.50	54.38	77.80	14.21	50.20	58.56	81.15	3.76	5.06	
2028+	+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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