

BP1 Crude List dated 8/31/2023

Crude Oil Name	Symbol	Type	Origin	Gravity *API @60°F	Sulfur mass%	Acidity mg KOH/g	Pour Point °F	RVP psi @ 100°F	Viscosity, SUS (Saybolt Universal Seconds)				Viscosity, cSt (Centistokes)					
									40°F	45°F	50°F	68°F	86°F	40°F	45°F	50°F	68°F	86°F
Bakken	BAK	sw	USA	42.5	0.083	0.0300	-71	10.21	39.36	38.55	37.84	35.72	34.12	4.10	3.80	3.58	2.93	2.45
Grand Mesa Light	GML	sw	USA	48.7	0.060	0.0300	+5	11.18*	35.84	35.31	34.82	33.35	32.23	2.97	2.81	2.66	2.22	1.89
Grand Mesa Sweet@Cushing	GMS	sw	USA	40.2	0.206	0.0200	+32	8.26	49.36	47.36	45.68	41.05	37.91	7.15	6.56	6.03	4.58	3.6
Mississippi Lime	MSL	so	USA	32.8	0.066	0.0700	-11	4.74	110.8	99.47	90.10	67.47	55.13	23.0	20.4	18.2	12.4	8.92
Mixed Sweet at Cushing with Pony Pipeline	MXS	sw	USA	35.8	0.446	0.0500	-27	7.21	113.9	98.75	86.90	61.30	49.21	23.7	20.2	17.4	10.7	7.13
Niobrara @Cushing Pony PL (NIO)	NIB	sw	USA	37.5	0.402	0.0500	-27	8.11	61.50	58.13	55.25	47.69	42.84	10.8	9.8	8.95	6.66	5.14
Oklahoma Intermediate	OKI	sw	USA	43.5	0.097	0.0200	-54	10.18	45.77	44.40	43.16	39.65	37.13	6.06	5.63	5.24	4.14	3.36
Permian Sour Blend (PSB)	PRM	sw	USA	41.9	0.281	0.0500	-6	8.03	42.84	41.60	40.51	37.42	35.22	5.14	4.75	4.41	3.45	2.78
Pony Common Stream	PCS	so	USA	30.5	0.663	0.160	+16	3.49	364.8	306.7	280.2	153.6	100.8	78.7	68.1	56.0	32.7	20.7
Saddlehorn Intermediate (SHI)	SHM	sw	USA	45.5	0.076	0.0100	-27	11.49*	41.23	40.14	39.16	36.38	34.39	4.63	4.29	3.99	3.13	2.53
Saddlehorn Light (SHL)	SHL	sw	USA	49.1	0.050	0.0187	-65	9.57	36.80	36.15	35.59	33.86	32.57	3.26	3.06	2.89	2.37	1.99
SCOOP	SCP	sw	USA	54.4	0.015	0.0153	-71	10.77	32.62	32.31	32.01	31.12	30.42	2.01	1.91	1.83	1.57	1.37
STACK	STK	sw	USA	41.9	0.079	0.0413	-22	9.71	50.22	48.37	46.74	42.00	39.04	7.44	6.87	6.36	4.94	3.95
Stack Light	SKL	sw	USA	47.8	0.054	0.024	-76	8.94	42.55	40.48	38.78	34.53	32.05	5.05	4.40	3.87	2.57	1.84
Supreme Saddlehorn-Niobrara(SHC)	SSC	sw	USA	41.3	0.250	0.0461	-38	10.36	44.27	43.12	42.07	39.04	36.80	5.59	5.23	4.90	3.95	3.26
US High Sweet (North Dakota Sweet)	UHC	sw	USA	42.1	0.118	0.100	-71	9.78	41.68	40.56	39.55	36.67	34.63	4.78	4.42	4.11	3.22	2.60
West Oklahoma Sweet	WOS	sw	USA	49.0	0.025	0.0299	-38	7.84	36.30	35.70	35.15	33.52	32.29	3.11	2.92	2.76	2.27	1.91
Whitecliffs Condensate (WHI)	WCC	sw	USA	49.3	0.051	0.0200	+10	10.27	35.57	35.01	24.51	33.01	31.88	2.88	2.72	2.56	2.12	1.79
WTI @Cushing -Domestic Sweet	DSW	sw	USA	41.7	0.373	0.0012	-65	8.83	43.09	42.07	41.15	38.39	36.34	5.22	4.90	4.61	3.75	3.12
WTI - Midland	WTM	sw	USA	42.4	0.124	0.030	-6	9.30	45.13	43.67	42.36	38.75	36.21	5.86	5.40	4.99	3.86	3.08
WTI Midland Light (WTL)	WLC	sw	USA	48.2	0.0250	0.0200	-22	9.75	37.55	36.77	36.08	34.09	32.64	3.49	3.25	3.04	2.44	2.01
Access Western Blend - Annual Average	AWB	H/so	Canada	21.9	3.98	1.73	-33	7.58	3669	2942	2381	1191	657	792	635	514	257	142
Albian Heavy Synthetic	AHS	H/so	Canada	20.0	2.63	0.77	-44	8.76	1834	1561	1339	802	510	396	337	289	173	110
Albian Vascug River Heavy	AMH	H/so	Canada	21.6	3.76	1.83	-59	7.62	2668	2130	1717	852	468	576	460	371	184	101
Albian Vacuum Blend	AVB	H/so	Canada	19.2	3.09	3.80	-35	3.18	1737	1367	1089	524	283	375	295	235	113	60.9
Borealis Blend@ Edmonton - Annual Average	BHB	H/so	Canada	21.7	3.79	2.43	-49	6.66	2339	1973	1677	976	607	506	426	363	211	131
Canadian Blended Heavy	CBH	H/so	Canada	23.8	2.80	0.840	-49	6.16	1045	871	732	414	254	226	188	158	89.3	54.6
Canadian Mixed Sweet-lighter range (CMB)	CMS	sw	Canada	43.1	0.345	0.070	-6	10.43	44.93	43.39	42.03	38.26	35.69	5.80	5.31	4.88	3.71	2.92
Canadian Natural High TAN	CNX	H/so	Canada	21.4	3.69	1.510	-45	7.33	3648	2942	2394	1219	680	787	635	517	263	147
Christina Lake - Annual Average (CDB)	CHL	H/so	Canada	21.5	3.78	1.64	-36	7.00	3746	2997	2421	1205	661	809	647	523	260	143
Canadian Cold Lake - Annual Average	CL	H/so	Canada	20.8	3.64	1.02	-47	6.96	3763	3040	2477	1267	708	812	656	535	273	153
Fort Hills Dilbit - Annual Average	FRB	H/so	Canada	20.5	4.06	2.30	-51	6.04	3197	2629	2179	1174	685	690	568	470	254	148
Long Lake Heavy Dilbit - Annual Average	PDH	H/sour	Canada	21.4	3.878	2.86	-47	6.68	3169	2583	2123	1114	637	684	558	458	241	138
New Grade NSA SCO	NSA	sw	Canada	36.9	0.0541	0.02	-11	6.96	45.16	43.82	42.52	39.01	36.51	5.87	5.45	5.04	3.94	3.17
PXB at Edmonton (PetroChina Blend)	PXB	H/so	Canada	20.5	2.49	1.780	-49	2.71	1950	1575	1286	663	376	421	340	278.0	143	81
Seal Heavy	SH	H/so	Canada	20.1	4.97	2.55	-54	5.35	2212	1857	1570	901	553	478	401	339	194	119
Shell Synthetic Blend	SSX	sw	Canada	34.6	0.053	0.0136	-38	6.94	103.7	93.75	85.43	65.26	54.02	21.4	19.0	17.0	11.8	8.59
Suncor OSH (SUN)	OSH	H/so	Canada	19.1	3.09	3.66	-49	3.90	1222	951	751	353	189	264	205	162	76.1	40.6
Sumont Heavy Dilbit - Annual Average	SHD	H/sour	Canada	21.2	4.00	1.92	-44	7.23	5074	3949	3108	1428	734	1095	852	671	308	158
Western Canadian Dilbit - Annual Average	WDB	H/so	Canada	21.6	3.767	2.341	-40	6.71	3677	2967	2416	1232	688	794	641	522	266	148
Western Canadian Select - Annual Average (CSL)	WCS	H/sour	Canada	20.8	3.57	1.065	-47	7.84	4619	3641	2901	1382	731	997	786	626	298	158
Conventional Heavy CHV (Pool)	CHV	H/so	Canada	21.1	3.305	1.093	-42	8.57	2331	1933	1614	892	532	503	417	348	193	115
HSC Light Synthetic (Pool)	HSC	sw	Canada	33.3	0.088	0.013	-62	8.02	81.25	74.71	69.25	55.81	48.01	16.0	14.3	12.9	9.12	6.76
Kearl Heavy Dilbit - KDB (Pool)	KDB	H/so	Canada	21.1	3.82	1.979	-40	7.05	3385	2740	2238	1152	648	731	592	483	249	140
Light Sour Blend -LSB - Sour (Pool)	LSB	so	Canada	38.8	1.14	0.0342	-65	10.76	48.30	46.47	44.84	40.38	37.36	6.85	6.28	5.77	4.37	3.43
Medium Sour Blend - MSB - Sour (Pool)	MSB	so	Canada	35.5	1.84	0.232	-8	11.75*	76.97	71.33	66.62	54.69	47.56	14.9	13.4	12.2	8.79	6.62
Premium Conventional Heavy - PCH - Sour (Pool)	PCH	H/so	Canada	21.1	3.27	0.602	-40	4.25	2136	1738	1426	748	429	461	375	308	162	92.6
Premium Synthetic Blend - PSY (Pool)	PSY	sw	Canada	32.6	0.045	0.012	-27	1.69	62.12	58.32	55.17	47.05	42.01	10.9	9.85	8.93	6.46	4.88
Synbit Blend - SYB (Pool)	SYB	H/so	Canada	19.5	2.78	1.401	-38	2.76	2994	2366	1890	912	489	646	511	408	197	106
Synthetic Sweet Blend SYN - Light Synthetic (Pool)	SYN	sw	Canada	31.8	0.150	0.014	-38	5.70	68.29	63.66	59.78	50.02	44.11	12.6	11.4	10.30	7.38	5.54

sw =sweet crude
so = sour crude
H = Heavy crude

Crude Oils shall not exceed 350 cST (centistokes) at the monthly flowing temperature at the downstream meters:

*Vapor Pressure: Assay data, as listed above, typically reflects calculated vapor pressures and are often represented higher than actual field samples.
For this reason, these crudes are listed on the crude list, but it is the responsibility of the Shipper to ensure these crude oils do not exceed the BP1 11.0 psi Reid vapor pressure max.

Highlighted viscosities above signify viscosities above 350 cST (1621 SUS)at various temperatures. It is the Shipper's responsibility to ensure the crude oil shall not exceed 350 cST at the monthly meter temperatures listed below.

Month	°F
Jan	47
Feb	48
March	51
April	55
May	61
June	71
July	78
August	77
Sept	77
October	69
November	60
December	60