

**ChiCap Pipeline
Approved Crudes List**

	Symbol	Type	Origin	Gravity	Sulfur	Viscosity, SUS			
						20C (68F)	30C (86F)	40C (104F)	50C (122F)
<u>Domestic</u>									
Bakken	BAK	sw	ND	44.7	0.12	34.0		32.6	32.0
Bonito Sour	BSR	so	LA	33.6	1.05	65.2			43
Eugene Island	EI	so	LA	33.2	1.21	63.1			42.7
HLS	HLS	sw	LA	32.8	0.38	63.1	52.6	45.6	41.1
Illinois Basin	ILB	sw	IL/MO	36.3	0.20	54.0			
LLS	LLS	sw	LA	37.1	0.35	46.8	42.9	39.5	36.6
Mars	MAR	so	GOM	28.8	1.80	126	90.3	70	57.5
Memphis Light Sweet	MLS	sw	USA	34.8	0.39	49			
Mississippi Sweet	LMS	sw	MS	40.3	0.42	41.7	38.5	36.3	34.3
North Dakota Sweet	UHC	sw	ND	38.0	0.41	42.6	39.1	36.9	35.3
North Dakota Light	NDL	sw	ND	40.6	0.23	38.6			
North Dakota Bakken Sweet	NSW	sw	ND	41.5	0.21	38.2	35.6		
Platte Light Sweet	PSW	sw	ND/MT	42.6	0.39	80.5			42.4
Port Hudson	LPS	sw	LA	43.0	0.05	36.2		35.0	34.6
Poseidon	POS	so	GOM	29.1	1.94	120	85.7	66.7	55.4
South Louisiana Sweet	SLS	sw	LA	32.5	0.40	71.9	57.0	48.8	43.3
Thunder Horse	THD	so	GOM	33.8	0.68	70.7	57.0	49.1	44.0
West Hackberry Sweet	WHS	sw	SPR	36.7	0.33	47.9	42.2	38.4	35.80
WTI (West Texas Sweet)	B	sw	Texas/NM	39.8	0.42	41.0	38.2	36.0	
WTS (West Texas Sour)	C	so	Texas/NM	32.0	1.88	54.3	46.8	41.8	
Wyoming Sweet (Montana Mix)	WSC	sw	WY	31.3	0.49	103	77.3	62.4	53.4

Enbridge Pools

The following Enbridge pool segregations** are approved for movement on Chicap Pipeline

HSC - Light Synthetic	HSC	sw	Canada	34.6	0.15	47			
PSY - Light Synthetic	PSY	sw	Canada	34.2	0.15	42			
SYN - Light Synthetic	SYN	sw	Canada	32.8	0.21	45			
LSB - Sour	LSB	so	Canada	38.3	1.17	40			
MSB - Sour	MSB	so	Canada	32.8	1.71	77			
CHV - Conventional Heavy (<i>June to November only*</i>)	CHV	H	Canada	20.4	4.08	711			
KDB - Dilbit Heavy (<i>May to November only*</i>)	KDB	H	Canada	21.6	3.94	572			
PCH - Premium Conventional Heavy (<i>May to November only*</i>)	PCH	H	Canada	23.1	2.93	729			
SYB - Synbit Heavy (<i>May to November only*</i>)	SYB	H	Canada	20.3	3.08	628			

* This restriction does not apply to the Mokena to Lemont segment

** Grades making up each pool are listed in Appendix A

Please refer to Appendix B for Canadian heavy crude movements allowed from Plains Patoka to Manhattan, IL

sw = sweet crude

so = sour crude

H = Heavy crude

Effective Date: August 1, 2016

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						20C (68F)	30C (86F)	40C (104F)	50C (122F)
<u>Canada</u>									
Access Western Blend (<i>June to November only*</i>)	AWB	H	Canada	21.5	3.83	713	408	252	203
Alberta Common Synthetic	ACS	sw	Canada	32.7	0.19	50.6	44.8	40.8	38
Albian Muskeg River Heavy (<i>July to September only*</i>)	AMH	H	Canada	21.6	3.72	908			
Albian Muskeg River Heavy / Peace Sour Blend (90/10) (<i>July to October only*</i>)		H	Canada	22.4	3.71	757	372	205	
Borealis Heavy Blend (<i>May to November only*</i>)	BHB	H	Canada	21.3	3.23	684	413		
Bow River	BR	H	Canada	23.6	2.51	442	263	167	
Canadian Condensate	CRW	sw	Canada	63.6	0.14	< 32	< 32	< 32	< 32
Canadian Mixed Sweet (MSW)	CMB	sw	Canada	39.6	0.48	41.7	38.2	35.6	34.3
Christina Lake Dilbit Blend (<i>June to October only*</i>)	CSB	H	Canada	21.6	3.86	795			
Cold Lake (<i>June to October only*</i>)	CL	H	Canada	21.9	3.66	764	434	267	
Edmonton Low Sulfur Sour	SLE	so	Canada	34.1	0.94	56.0	48.4	43.7	40.2
Edmonton High Sulfur Sour	SHE	so	Canada	33.7	1.67	56.3	47.7	43.0	41.4
Fosterton (<i>May to November only*</i>)	FOS	H	Canada	20.6	3.13	653	360	218	
CNRL Light Synthetic Sweet	CNS	sw	Canada	37.3	0.14	37.5			32.6
Husky Synthetic Sweet	HSB	sw	Canada	32.7	0.10	54.0	46.8	42.1	
Kearl Lake (<i>June to November only*</i>)	KRL	H	Canada	22.6	3.38	690	469	333	215
Keystone Heavy Blend (<i>May to November only</i>)	KHB	H	Canada	22.4	3.06	612	361		
Light Sour Blend (LSB)	CLS	so	Canada	34.6	1.34	48.1	43.3	40.2	37.6
LLB (<i>June to November only*</i>)	LLB	H	Canada	21.4	3.50	732	420	261	
LLK (<i>June to November only*</i>)	LLK	H	Canada	21.0	3.31	700	408	251	
Long Lake Heavy Blend (<i>July to September only*</i>)	PSH	H	Canada	20.6	2.98	888	507		
Long Lake Sweet Synthetic Blend	PSC	sw	Canada	36.8	0.09	54.4	46.7		
Midale	MID	so	Canada	29.5	2.28	86.5	63.0	51.1	44.3
Mixed Sour Blend	MSO	so	Canada	28.7	1.95	110	80.9	64.5	54.4
Moose Jaw Tops	MJT	so	Canada	41.2	1.41	36.3			
Newgrade Synthetic Sweet	NSA	sw	Canada	36.6	0.08	44.2	40.4	38.2	36.3
OSA (Suncor A Synthetic Sweet)	OSA	sw	Canada	33.3	0.18	43.6	39.4		35.0
Premium Albian Synthetic Sweet	PAS	sw	Canada	33.9	0.02	41.4	37.5	34.6	32.6
Seal Heavy (<i>June to October only*</i>)	SH	H	Canada	21	4.93	781	466		
Shell Premium Synthetic Sweet	SPX	sw	Canada	30.5	0.05	67.3	56.1	47.5	42.8
Shell Sweet Synthetic Light	SSX	sw	Canada	33.9	0.10	57.7	52.7		
Smiley Coleville (<i>June to November only*</i>)	SC	H	Canada	20.3	2.98	695	401	246	
Surmont Heavy Blend (<i>July to October only*</i>)	SHB	H	Canada	20.0	3.01	801	441	264	
Syncrude (Imperial)	SSP	sw	Canada	31.9	0.15	49.0	43.6	39.8	37.3
Wabasca (<i>May to November only*</i>)	WAB	H	Canada	20.6	4.15	621	361	226	
Western Canadian Blend (<i>May to November only*</i>)	WCB	H	Canada	21.3	3.27	544	373		
Western Canadian Select (<i>June to Nov only*</i>)	CSL	H	Canada	21.2	3.46	681	392	243	146

* This restriction does not apply to the Mokena to Lemont segment
Please refer to Appendix B for Canadian heavy crude movements allowed from Plains Patoka to Manhattan, IL

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

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	Symbol	Type	Origin	Gravity	Sulfur	Viscosity, SUS			
						20C (68F)	30C (86F)	40C (104F)	50C (122F)
<u>Foreign</u>									
Abo	ABO	sw	Nigeria	38.5	0.13	38.2	35.9	34.3	
Agbami	AGB	sw	Nigeria	47.4	0.05	35.6			< 32
Akpo	AKP	sw	Nigeria	46.3	0.07	33.6	< 32	< 32	
Alba condensate	ALB	sw	Equatorial Guinea	53.7	0.01	< 32	< 32	< 32	< 32
Amenam	AME	sw	Nigeria	40.7	0.08	36.2	34.6	33.3	32.3
Arab Light	ARL	so	Saudi Arabia	33.5	1.86	59.5	50.7	45.1	41.4
Arab Medium	ARM	so	Saudi Arabia	30.8	2.61	93.2	71.6	59.2	51.5
Asgard	-	sw	Norway	48.9	0.07	31			29
Basra Heavy	BAH	H	Iraq	23.7	4.12	273			
Basra Light	BAL	so	Iraq	30.2	2.93	85.3	67.0	56.1	48.8
Bonny Light	BL	sw	Nigeria	32.7	0.18	49.4	43.9	40.2	37.6
Bonga	BON	sw	Nigeria	29.8	0.26	57.4	49.4	44.3	40.8
Brass River	BRR	sw	Nigeria	36.0	0.13	41.0	37.8	35.6	33.6
Brent	BRE	sw	UK	37.9	0.45	44.2	40.7	37.9	36.0
Cabinda	CAB	sw	Angola	32.7	0.14	122	89.8	70.1	58.5
Ceiba	CEI	so	Equatorial Guinea	29.7	0.57	131	93.6	72.4	59.3
Cusiana	CUS	sw	Colombia	44.1	0.11	33.9	32.5	< 32	< 32
CPC Blend	CPC	so	Kazakhstan	43.3	0.51	35.9	34.2	32.9	32.0
Dalia (<i>May to November only</i>)	DAL	H	Angola	23.7	0.49	652	361	218	142
Draugen	DRA	sw	Norway	40.0	0.15	38.1	35.9	34.3	33.3
E.A	E.A	sw	Nigeria	35.4	0.08	40.4	37.5	35.6	34.0
Ekofisk	EKO	sw	Norway	37.7	0.21	50.0	43.9	39.8	36.9
Erha	ERH	sw	Nigeria	33.7	0.19	49.0	43.6	39.8	37.3
Escravos	ESC	sw	Nigeria	33.4	0.17	52.0	44.8	40.8	37.9
Forcados	FOR	sw	Nigeria	28.9	0.18	60.1	50.0	44.3	40.2
Forties	FOT	sw	UK	40.4	0.61	39.4	36.8	35.0	33.6
Galeota	TRI	sw	Trinidad	42.4	0.13	32.5	< 32	< 32	< 32
Girassol	GIR	sw	Angola	30.1	0.33	108	78.5	62.0	52.4
Hungo	HUN	so	Angola	28.7	0.62	124	90.6	70.5	58.5
Kissanje	KIS	sw	Angola	30.5	0.37	90.6	68.9	56.8	49.1
Kuwait	KUW	so	Kuwait	30.3	2.71	97.8	73.9	60.2	52.1
Maya/Mars Blend (60/40) (<i>May to Nov only</i>)		H	Mexico/GOM	23.8	3.00	588	335	207	138
Nemba	NEM	sw	Angola	39.1	0.23	42.3	39.1	36.6	35.0
N'Kossa	NKO	sw	Congo	41.4	0.06	43.6	39.4	36.9	34.6
Okono	OKO	sw	Nigeria	40.5	0.13	35.8	34.2	32.6	< 32
Olmecca	OLM	so	Mexico	38.8	0.91	39.9			
Oseberg	OSE	sw	Norway	37.4	0.27	43.9	40.4	37.6	35.6
Oso Condensate	OSO	sw	Nigeria	46.0	0.05	33.2	32.1	< 32	< 32
Palanca	PAL	sw	Angola	36.5	0.18	52.6	45.8	41.4	38.2
Purovsky	PUR	sw	Russia	61.2	0.01	< 32	< 32	< 32	< 32

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						<u>20C (68F)</u>	<u>30C (86F)</u>	<u>40C (104F)</u>	<u>50C (122F)</u>
Qua Iboe	QIB	sw	Nigeria	34.3	0.14	45.4	40.1		36.3
Saharan Blend	SAH	sw	Algeria	45.2	0.09	35.2	33.9	32.6	< 32
Santa Barbara	SAN	so	Venezuela	39.5	0.48	37.8	35.5	34.0	32.6
Schiehallion	SCH	sw	UK	25.5	0.47	246	152	103	75.8
Sleipner Condensate	SLP	sw	Norway	62.1	0.01	< 32	< 32	< 32	< 32
Topacio	TOP	sw	Equatorial Guinea	27.0	0.34	106	78.9	62.4	52.7
Trinidad Gulf Stream Condensate	TRN	sw	Trinidad	73.1	0.02	< 32	< 32 @ 100F		
Troll	TRO	sw	Norway	30.1	0.21	73.4	58.4	49.8	44.3
Urals	URA	so	Russia	31.3	1.48	87.3	67.7	56.1	48.8
Vasconia	VAS	so	Colombia	25.3	0.95	275	172	116	84.3
Yoho	YOH	sw	Nigeria	39.3	0.07	36.5	34.9	33.6	32.3
Zafiro	ZAF	sw	Equatorial Guinea	30.9	0.25	62.3			41.8
Zuata Sweet	ZUA	sw	Venezuela	30.9	0.06	57.7	48.7	43.3	39.5

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Appendix A

Grades making up Enbridge crude pools

<u>Crude Type</u>	<u>Enbridge Pool Name</u>	<u>Grades Included</u>
Light Synthetic	HSC	Husky Synthetic Sweet Long Lake Synthetic Sweet
	PSY	CNRL Synthetic Sweet Premium Albion Synthetic Sweet
	SYN	Imperial Syncrude Suncor A Synthetic Sweet
Sour	LSB	Light Sour Blend Moose Jaw Tops
	MSB	Edmonton Low Sulfur Sour Edmonton High Sulfur Sour Midale Mixed Sour
Conventional Heavy	CHV	Lloydminster Hardisty Blend Lloydminster Kerrobert Smiley Coleville Wabasca Heavy
Premium Conventional Heavy	PCH	Bow River Fosterton Western Canadian Blend
Dilbit Heavy	KDB	Kearl Lake
Synbit Heavy	SYB	Christina Lake Synbit Long Lake Heavy MacKay River Heavy Statoil Cheecham Synbit Surmont Heavy

Appendix B

Canadian Heavy Crudes

Months where receipt from Plains Patoka to Manhattan, IL is allowed

<u>Segregation</u>	<u>Symbol</u>	<u>Months Allowed</u>		
Access Western Blend	AWB	January	to	December
Albian Muskeg River	AMH	May	to	November*
AMH/Peace Sour Blend (90/10)	na	January	to	December
Borealis Heavy Blend	BHB	January	to	December
Bow River	BR	January	to	December
Christina Lake Dilbit Blend	CSB	January	to	December
CHV - Enbridge Conventional Heavy Pool	CHV	January	to	December
Cold Lake (Winter)	CL	January	to	December
Fosterton	F	January	to	December
KDB - Enbridge Dilbit Heavy Pool	KDB	January	to	December
Kearl	KRL	January	to	December
Keystone Heavy Blend	KHB	January	to	December
Lloydminster Blend	LLB	January	to	December
Lloydminster Kerrobert	LLK	January	to	December
Long Lake Heavy Blend	PSH	January	to	December
PCH - Enbridge Premium Conventional Heavy Pool	PCH	January	to	December
Seal	SH	January	to	December
Smiley Coleville	SC	January	to	December
Statoil Cheecham Dilbit Blend	SCB	June	to	October*
Surmont Heavy	SHB	January	to	December
SYB - Enbridge Synbit Heavy Pool	SYB	January	to	December
Wabasca	WAB	January	to	December
Western Canadian Blend	WCB	January	to	December
Western Canadian Select	CSL	January	to	December

*Batch must be out of the Chicap system by the end of this month