

Reference: KEARL23B  
Crude: Kearl



## Crude Summary Report

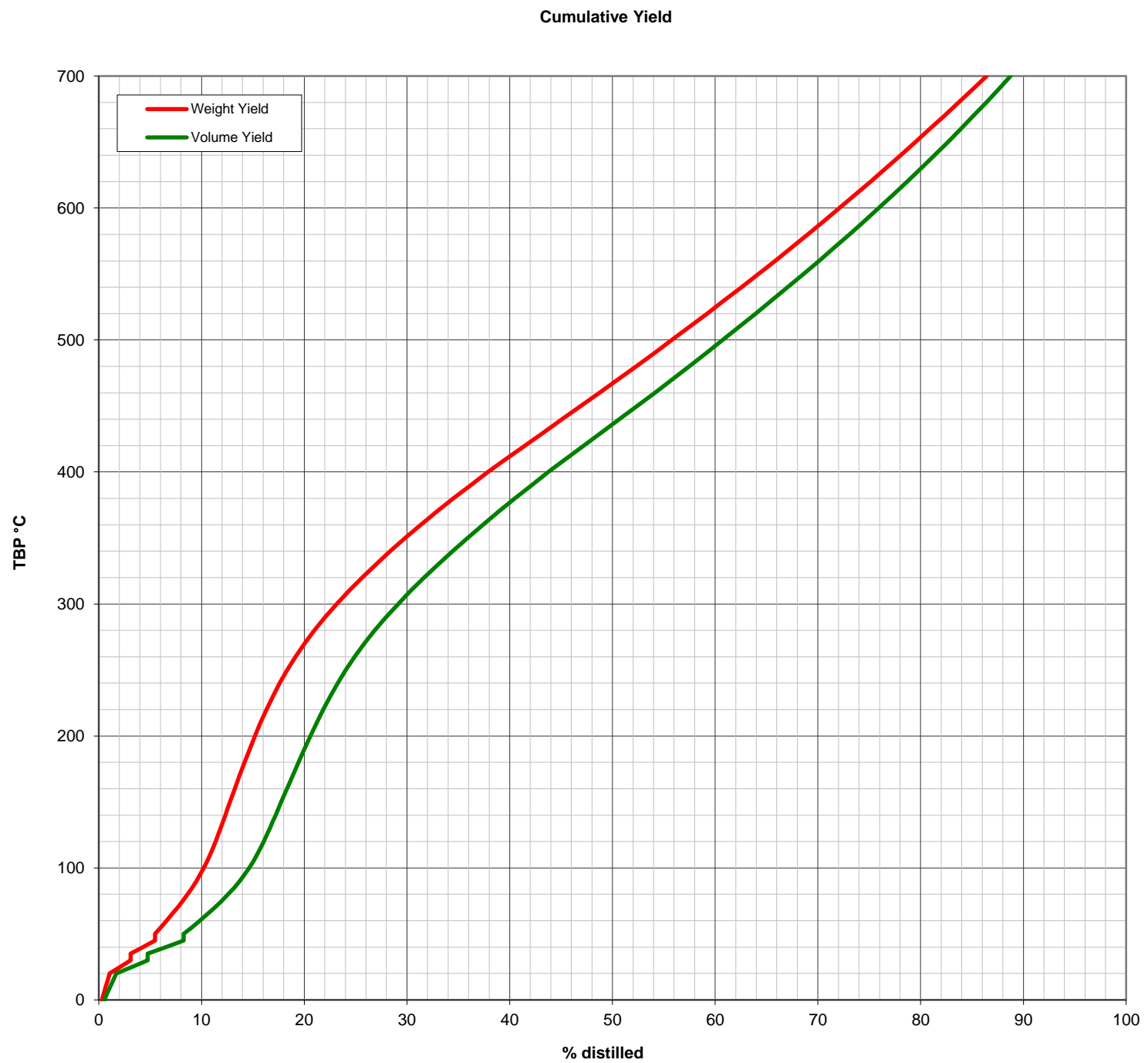
General Information		Molecules (%wt on crude)				Whole Crude Properties			
Reference:	KEARL23B	methane + ethane	0.00	Density @ 15°C (g/cc)	0.9350				
Name:	Kearl	propane	0.07	<b>API Gravity</b>	<b>19.8</b>				
Origin:	Alberta	isobutane	0.35	Total Sulfur (% wt)	3.83				
Assay Date:	10/26/2023	n-butane	0.97	Pour Point (°C)	-48				
Comments:	Summer	isopentane	2.98	Viscosity @ 20°C (cSt)	409.3				
		n-pentane	3.45	Viscosity @ 40°C (cSt)	104.9				
		cyclopentane	0.16	Nickel (ppm)	51.3				
		C6 paraffins	3.24	Vanadium (ppm)	127.3				
		C6 naphthenes	0.84	Total Nitrogen (ppm)	3408				
		benzene	0.15	Total Acid Number (mgKOH/g)	2.08				
		C7 paraffins	1.17	Mercaptan Sulfur (ppm)	100.8				
		C7 naphthenes	0.86	Hydrogen Sulfide (ppm)	0.0				
		toluene	0.25	Reid Vapor Pressure (kPa)	48.3				

Cut Data	IBP	Atmospheric Cuts									Vacuum Cuts			
		C5	65	100	150	200	250	300	350	370	370	450	500	550
Start (°C)	FBP	65	100	150	200	250	300	350	370	FBP	450	500	550	FBP
End (°C)														
Yield (% wt)		6.3	3.1	2.5	2.4	3.1	4.8	6.7	3.1	67.1	14.0	8.9	8.4	35.8
Yield (% vol)		9.2	4.1	3.1	2.8	3.4	5.1	6.8	3.0	61.1	13.5	8.3	7.9	31.4
Cumulative Yield (% wt)		0.9	7.1	10.2	12.8	15.2	18.3	23.2	29.8	32.9	32.9	46.9	55.8	64.2
Volume Average B.P. (°C)	417	38.7	81	123	175	226	277	326	360	567	411	475	525	669
Density @ 15°C (g/cc)	0.9350	0.6285	0.7042	0.7565	0.7933	0.8450	0.8788	0.9119	0.9431	1.0186	0.9644	0.9867	0.9937	1.0566
API Gravity	19.8	93.6	69.4	55.5	46.8	35.9	29.4	23.6	18.5	7.3	15.1	11.8	10.8	2.3
UOPK	11.49			11.81	11.73	11.42	11.33	11.24	11.07	11.26	11.11	11.18	11.35	11.28
Molecular Weight (g/mol)				109	138	168	203	241	267	569	317	403	511	1017
Total Sulfur (% wt)	3.8	0.011	0.021	0.037	0.134	0.56	1.24	2.00	2.60	5.27	3.27	3.86	4.49	6.59
Mercaptan Sulfur (ppm)	100.8	81.6	104.9	101.2	120.1	97.1	54.4							
Total Nitrogen (ppm)	3408					7	30	138	344	5047	1056	2339	3511	7642
Basic Nitrogen (ppm)	966					5	26	112	215	1416	400	649	813	2146
Total Acid Number (mgKOH/g)	2.08	0.01	0.05	0.08	0.09	0.07	0.59	1.84	2.92	2.72	3.56	4.53	5.15	1.38
Viscosity @ 20°C (cSt)	409				1.43									
Viscosity @ 40°C (cSt)	105				1.08	1.84	3.84	10.4	25.6					
Viscosity @ 50°C (cSt)	61.2					1.57	3.08	7.58	16.9	37994	68.7	451	2148	
Viscosity @ 60°C (cSt)										12541	41.5	225	931	
Viscosity @ 100°C (cSt)										514	9.80	31.3	85.1	138962
Viscosity @ 130°C (cSt)														9260
Viscosity @ 150°C (cSt)														2351
RON (Clear)		76.3	40.6	65.6	33.9									
MON (Clear)		73.1	57.6	62.8	32.1									
Paraffins (% wt)	18.1	98.0	65.2	34.2	45.0									
Naphthenes (%wt)	19.9	1.9	30.8	46.1	40.9									
Aromatics (% wt)	62.0	0.0	4.0	19.6	14.1									
Pour Point (°C)	-48					-63	-47	-25	-14	28	-3	8	14	48
Cloud Point (°C)						-61	-45	-24						
Freeze Point (°C)						-72	-56	-40						
Smoke Point (mm)						27	19	12						
Cetane Index (D4737A)						37	35	38	39	36				
Naphthalenes (% vol)						0.0	0.7	2.4	3.7					
Aniline Point (°C)				54.0	54.9	57.9	58.4	55.1	53.1		54.9	58.9	60.7	
Hydrogen (% wt)	12.2	16.6	15.3	13.8	14.2	13.4	12.9	12.1	11.5		11.3	11.2	11.3	
Total Wax (% wt)	0.7									0.1	0.5	0.1	0.0	0.0
C7 Asphaltene (% wt)	5.7									8.5		0.0	0.0	16.0
Micro Carbon Residue (% wt)	9.7									14.4		0.4	2.8	26.3
Vanadium (ppm)	127.3									189.7		0.0	0.0	355.7
Nickel (ppm)	51.3									76.4		0.0	0.0	143.3
Iron (ppm)	2.0									3.0		0.0	0.0	5.7
Sodium (ppm)	3.1													
Mercury (ppb)	1.4													
Arsenic (ppb)	110													
Calcium (ppm)	56													

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## Yield Distribution



**Cumulative Volume % Distilled at 10 Degree C (TBP) Intervals**

	0	10	20	30	40	50	60	70	80	90
0				4.8	6.5	8.3	9.8	11.3	12.6	13.7
100	14.6	15.4	16.1	16.7	17.2	17.8	18.3	18.9	19.4	20.0
200	20.6	21.2	21.9	22.5	23.3	24.1	24.9	25.8	26.9	28.0
300	29.1	30.4	31.7	33.0	34.5	35.9	37.4	38.9	40.5	42.1
400	43.8	45.5	47.2	48.9	50.7	52.4	54.1	55.8	57.5	59.1
500	60.7	62.3	63.9	65.5	67.1	68.6	70.1	71.6	73.1	74.5