Reference: CLOV19Y
Crude: CLOV Blend

ExxonMobil

Crude Summary Report

General Information		Molecules (%wt on crude)		Whole Crude Properties	
Reference:	CLOV19Y	methane + ethane	0.02	Density @ 15°C (g/cc)	0.8650
Name:	CLOV Blend	propane	0.31	**API Gravity**	**32.0**
		isobutane	0.24	Total Sulfur (% wt)	0.26
Origin:	Angola	n-butane	0.71	Pour Point (°C)	-11
		isopentane	0.65	Viscosity @ 20°C (cSt)	13.8
Assay Date:	4/18/2019	n-pentane	0.78	Viscosity @ 40°C (cSt)	7.2
		cyclopentane	0.12	Nickel (ppm)	7.3
Comments:		C6 paraffins	1.50	Vanadium (ppm)	2.7
		C6 naphthenes	0.99	Total Nitrogen (ppm)	1712
		benzene	0.18	Total Acid Number (mgKOH/g)	0.71
		C7 paraffins	1.35	Mercaptan Sulfur (ppm)	6.3
		C7 naphthenes	1.81	Hydrogen Sulfide (ppm)	0.0
		toluene	0.64	Reid Vapor Pressure (kPa)	49.0

Cut Data		Atmospheric Cuts									Vacuum Cuts			
Start (°C)	IBP	C5	65	100	150	200	250	300	350	370	370	450	500	550
End (°C)	FBP	65	100	150	200	250	300	350	370	FBP	450	500	550	FBP
Yield (% wt)		2.7	3.9	7.0	7.2	8.2	9.4	9.9	4.0	46.5	15.3	8.4	6.9	15.9
Yield (% vol)		3.5	4.6	7.9	7.7	8.6	9.5	9.9	3.9	42.8	14.6	7.8	6.4	13.9
Cumulative Yield (% wt)		1.1	3.7	7.7	14.7	21.9	30.1	39.6	49.5	53.5	53.5	68.8	77.1	84.1
Volume Average B.P. (°C)	340	41.7	84	125	175	226	275	325	360	514	409	474	524	641
Density @ 15°C (g/cc)	0.8650	0.6493	0.7330	0.7712	0.8025	0.8309	0.8562	0.8684	0.8893	0.9371	0.9019	0.9195	0.9312	0.9866
API Gravity	32.0	86.4	61.5	51.9	44.8	38.7	33.7	31.4	27.5	19.4	25.3	22.3	20.4	11.8
UOPK	11.94			11.60	11.60	11.60	11.62	11.80	11.74	11.98	11.87	12.00	12.11	11.96
Molecular Weight (g/mol)				109	137	169	207	253	286	506	344	445	562	973
Total Sulfur (% wt)	0.26	0.004	0.006	0.009	0.018	0.039	0.089	0.200	0.271	0.463	0.300	0.359	0.444	0.68
Mercaptan Sulfur (ppm)	6.3		12.7	12.1	21.4	15.6	7.9							
Total Nitrogen (ppm)	1712					10	43	143	315	3613	804	1547	2320	7953
Basic Nitrogen (ppm)	447					8	31	79	155	923	283	461	750	1856
Total Acid Number (mgKOH/g)	0.71	0.03	0.07	0.13	0.35	0.72	0.83	1.24	1.35	0.76	1.19	1.04	0.83	0.17
Viscosity @ 20°C (cSt)	13.8				1.31									
Viscosity @ 40°C (cSt)	7.20				1.01	1.60	2.93	6.24	11.6					
Viscosity @ 50°C (cSt)	5.52					1.39	2.44	4.88	8.57	249	19.9	69.1	222	
Viscosity @ 60°C (cSt)										140	14.2	44.0	127	
Viscosity @ 100°C (cSt)										26.2	5.17	11.6	24.6	894
Viscosity @ 130°C (cSt)														182
Viscosity @ 150°C (cSt)														81.6
RON (Clear)		76.8	50.4	68.7	55.4									
MON (Clear)		75.0	63.8	63.2	51.6									
Paraffins (% wt)	24.6	94.9	52.4	27.0	34.2									
Naphthenes (%wt)	39.4	5.1	42.9	50.8	43.1									
Aromatics (% wt)	36.0	0.0	4.7	22.2	22.7									
Pour Point (°C)	-11					-53	-32	-7	7	32	25	42	52	42
Cloud Point (°C)						-51	-30	-6						
Freeze Point (°C)					-62	-46	-24							
Smoke Point (mm)					21	18	15							
Cetane Index (D4737A)					33	40	47	56	58					
Naphthalenes (% vol)					0.1	4.3	10.1	11.8						
Aniline Point (°C)				44.1	49.0	58.3	65.9	73.8	79.7		86.8	94.8	100.4	
Hydrogen (% wt)	13.2	16.5	15.0	13.6	13.7	13.4	13.3	13.1	12.8		12.8	12.8	12.7	
Total Wax (% wt)	6.6									5.3	8.1	7.7	5.7	1.2
C7 Asphaltenes (% wt)	0.1									0.2		0.0	0.0	0.7
Micro Carbon Residue (% wt)	2.5									5.4		0.0	0.8	15.5
Vanadium (ppm)	2.7									5.7		0.0	0.0	16.7
Nickel (ppm)	7.3									15.8		0.0	0.0	46.1
Iron (ppm)	2.3									5.0		0.0	0.0	14.6
Sodium (ppm)	2.4													
Mercury (ppb)	2.0													
Arsenic (ppb)	12													

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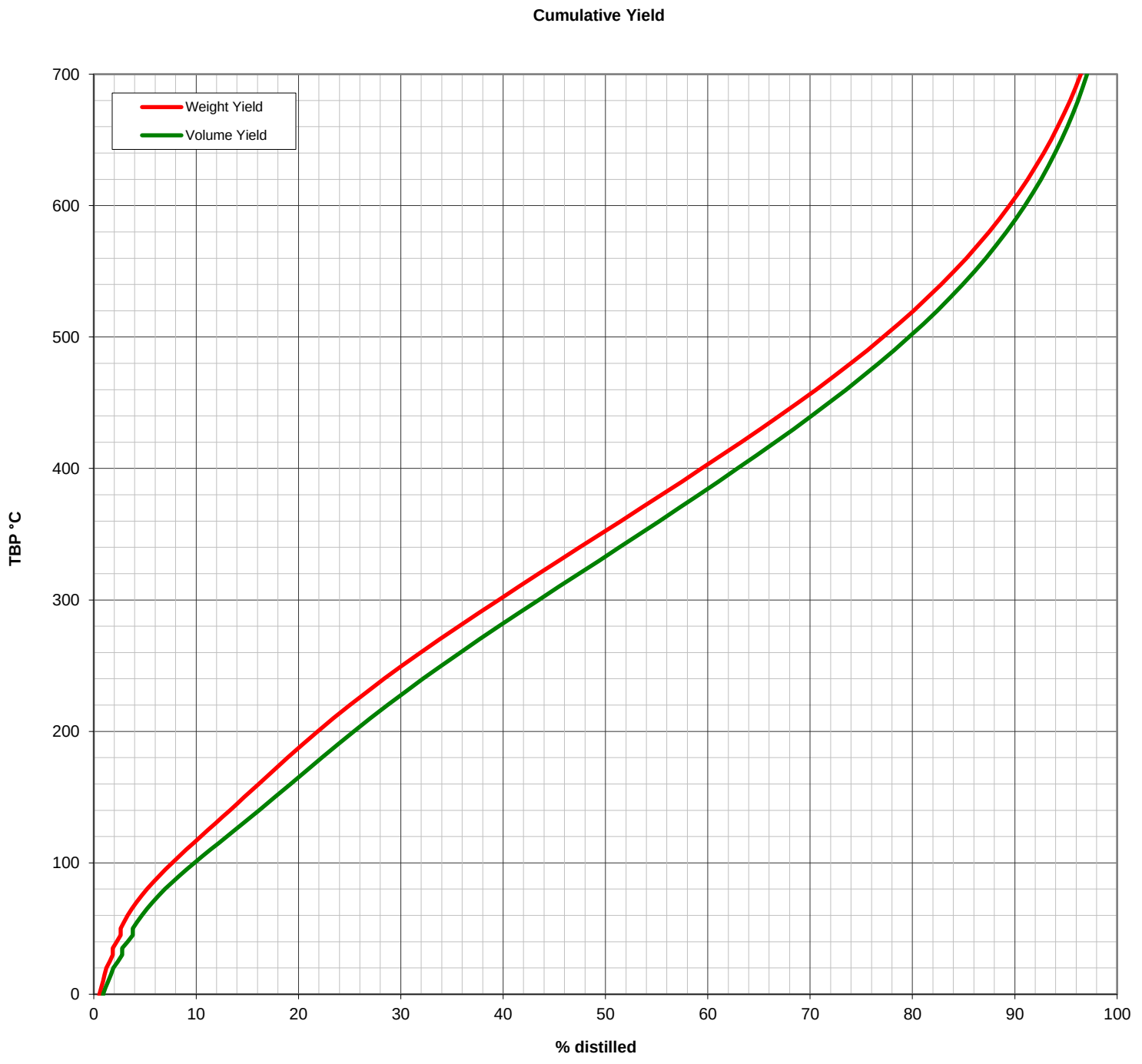
Yield Distribution



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

	0	10	20	30	40	50	60	70	80	90
0				2.8	3.3	3.8	4.7	5.7	7.0	8.3
100	9.8	11.4	13.0	14.6	16.2	17.7	19.2	20.7	22.3	23.8
200	25.4	27.0	28.7	30.4	32.2	34.0	35.8	37.7	39.6	41.5
300	43.5	45.4	47.4	49.4	51.4	53.3	55.3	57.2	59.1	61.0
400	62.9	64.8	66.6	68.4	70.1	71.8	73.5	75.1	76.7	78.2
500	79.7	81.1	82.4	83.7	84.9	86.1	87.2	88.2	89.2	90.1