Reference: KUTUB24Y
Crude: Kutubu Blend

ExxonMobil

Crude Summary Report

General Information		Molecules (%wt on crude)		Whole Crude Properties	
Reference:	KUTUB24Y	methane + ethane	0.00	Density @ 15°C (g/cc)	0.7614
Name:	Kutubu Blend	propane	0.11	**API Gravity**	**54.3**
		isobutane	0.72	Total Sulfur (% wt)	0.02
Origin:	Papua New Guinea	n-butane	1.96	Pour Point (°C)	-20
		isopentane	2.68	Viscosity @ 20°C (cSt)	0.9
Assay Date:	3/15/2024	n-pentane	2.38	Viscosity @ 40°C (cSt)	0.8
		cyclopentane	0.32	Nickel (ppm)	0.2
Comments:		C6 paraffins	5.89	Vanadium (ppm)	0.0
		C6 naphthenes	3.74	Total Nitrogen (ppm)	114
		benzene	0.80	Total Acid Number (mgKOH/g)	0.01
		C7 paraffins	5.57	Mercaptan Sulfur (ppm)	0.5
		C7 naphthenes	6.88	Hydrogen Sulfide (ppm)	0.0
		toluene	2.87	Reid Vapor Pressure (kPa)	58.2

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)		14.3	17.4	23.1	12.8	9.0	6.8	4.8	1.4	7.2	3.8	1.4	0.9	1.2
Yield (% vol)		16.9	18.1	22.9	12.4	8.3	6.0	4.2	1.2	5.9	3.2	1.1	0.7	0.9
Cumulative Yield (% wt)		3.1	17.4	34.8	57.9	70.7	79.7	86.5	91.3	92.8	92.8	96.5	97.9	98.8
Volume Average B.P. (°C)	152	40.6	83	123	173	224	274	323	360	465	405	473	523	621
Density @ 15°C (g/cc)	0.7614	0.6455	0.7308	0.7678	0.7879	0.8239	0.8588	0.8699	0.8917	0.9310	0.8948	0.9449	0.9820	1.0033
API Gravity	54.3	87.7	62.1	52.7	48.0	40.2	33.2	31.1	27.1	20.4	26.6	18.2	12.5	9.5
UOPK	12.01			11.64	11.79	11.69	11.58	11.77	11.71	11.80	11.94	11.67	11.47	11.68
Molecular Weight (g/mol)				108	137	169	205	251	285	415	341	426	516	840
Total Sulfur (% wt)	0.02	0.000	0.000	0.001	0.001	0.004	0.016	0.074	0.117	0.179	0.113	0.184	0.248	0.333
Mercaptan Sulfur (ppm)	0.5	0.0	0.0	0.0	0.2	0.4	0.3							
Total Nitrogen (ppm)	114					1	6	88	263	1455	456	1209	2603	4040
Basic Nitrogen (ppm)	42					0	4	32	95	541	210	402	602	1699
Total Acid Number (mgKOH/g)	0.01	0.00	0.00	0.00	0.00	0.01	0.04	0.07	0.06	0.07	0.04	0.10	0.15	0.08
Viscosity @ 20°C (cSt)	0.94				1.19									
Viscosity @ 40°C (cSt)	0.79				0.92	1.44	2.58	5.11	9.00					
Viscosity @ 50°C (cSt)	0.73					1.26	2.16	4.05	6.80	65.6	14.7	76.9	460	
Viscosity @ 60°C (cSt)										41.5	10.7	47.9	239	
Viscosity @ 100°C (cSt)										10.9	4.20	12.0	35.8	869
Viscosity @ 130°C (cSt)														164
Viscosity @ 150°C (cSt)														71.5
RON (Clear)		79.1	43.8	69.6	38.2									
MON (Clear)		77.1	61.7	64.3	36.4									
Paraffins (% wt)	45.4	96.4	56.7	30.5	52.2									
Naphthenes (%wt)	30.0	3.6	37.6	42.9	25.1									
Aromatics (% wt)	24.5	0.0	5.7	26.6	22.7									
Pour Point (°C)	-20					-39	-18	8	23	16	37	49	55	21
Cloud Point (°C)						-37	-16	10						
Freeze Point (°C)					-48	-33	-12							
Smoke Point (mm)					23	19	16							
Cetane Index (D4737A)					38	43	45	55	56					
Naphthalenes (% vol)					0.1	5.7	11.7	11.9						
Aniline Point (°C)				51.2	53.0	58.7	67.8	77.6	81.9		86.3	90.0	90.5	
Hydrogen (% wt)	13.9	16.5	15.0	13.4	14.0	13.3	13.1	13.0	12.6		12.6	12.0	11.6	
Total Wax (% wt)	12.9									28.0	41.4	18.7	9.5	10.5
C7 Asphaltenes (% wt)	0.0									0.1		0.0	0.0	0.4
Micro Carbon Residue (% wt)	0.2									2.7		0.1	2.3	14.3
Vanadium (ppm)	0.0									0.0		0.0	0.0	0.2
Nickel (ppm)	0.2									2.2		0.0	0.0	13.3
Iron (ppm)	0.2									2.2		0.0	0.0	13.3
Sodium (ppm)	0.1													
Mercury (ppb)	1.0													
Arsenic (ppb)	5													

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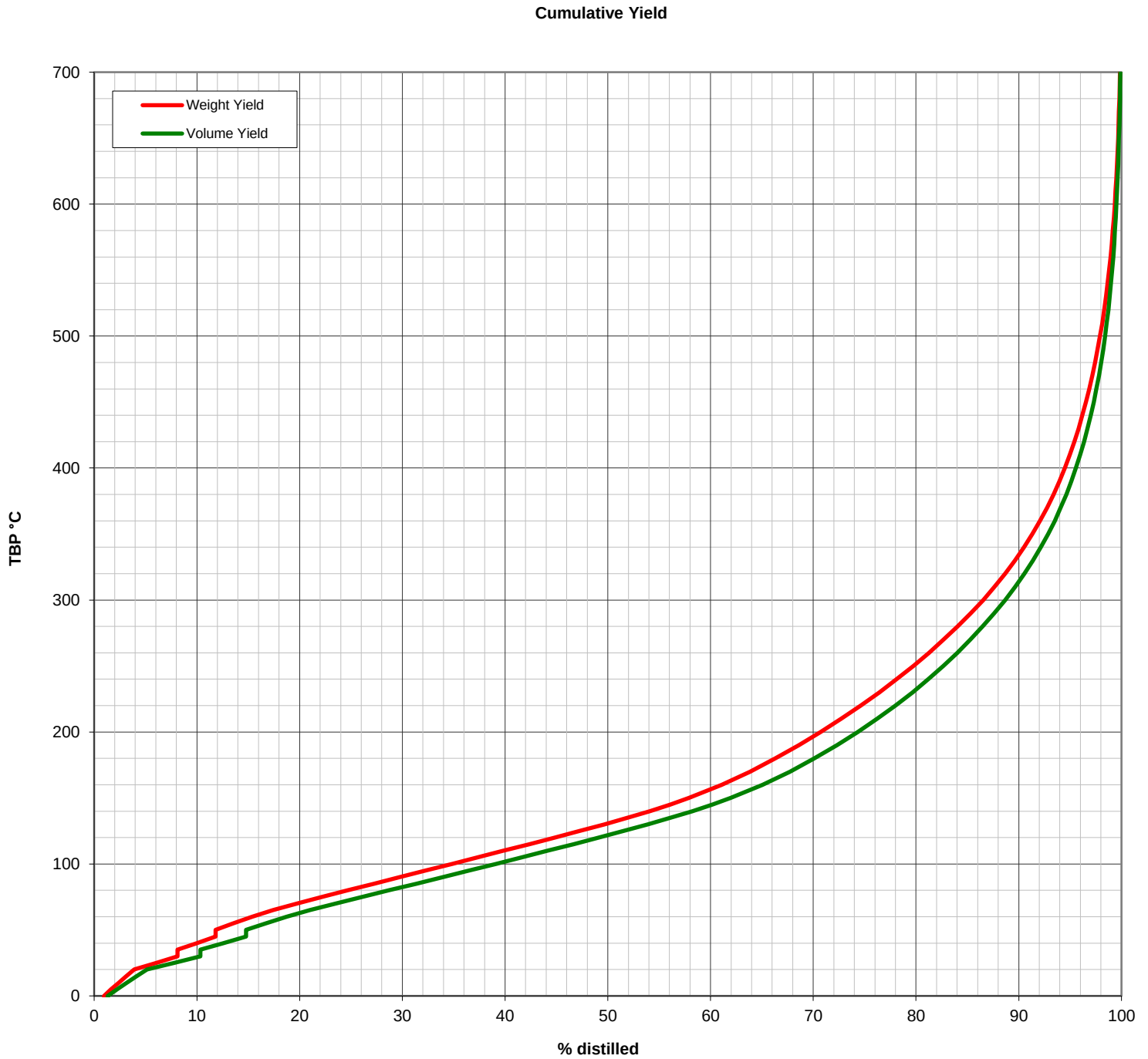
Yield Distribution



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

	0	10	20	30	40	50	60	70	80	90
0				10.3	12.6	14.8	18.7	23.5	28.7	33.9
100	39.1	44.2	49.1	53.9	58.2	62.0	65.1	67.7	70.1	72.3
200	74.3	76.2	78.0	79.7	81.2	82.7	84.0	85.3	86.5	87.6
300	88.7	89.7	90.6	91.4	92.2	92.9	93.5	94.1	94.6	95.1
400	95.6	96.0	96.4	96.7	97.0	97.3	97.6	97.8	98.0	98.2
500	98.4	98.6	98.7	98.9	99.0	99.1	99.2	99.3	99.4	99.4