

Reference: HUNGO18X  
Crude: Hungo Blend



## Crude Summary Report

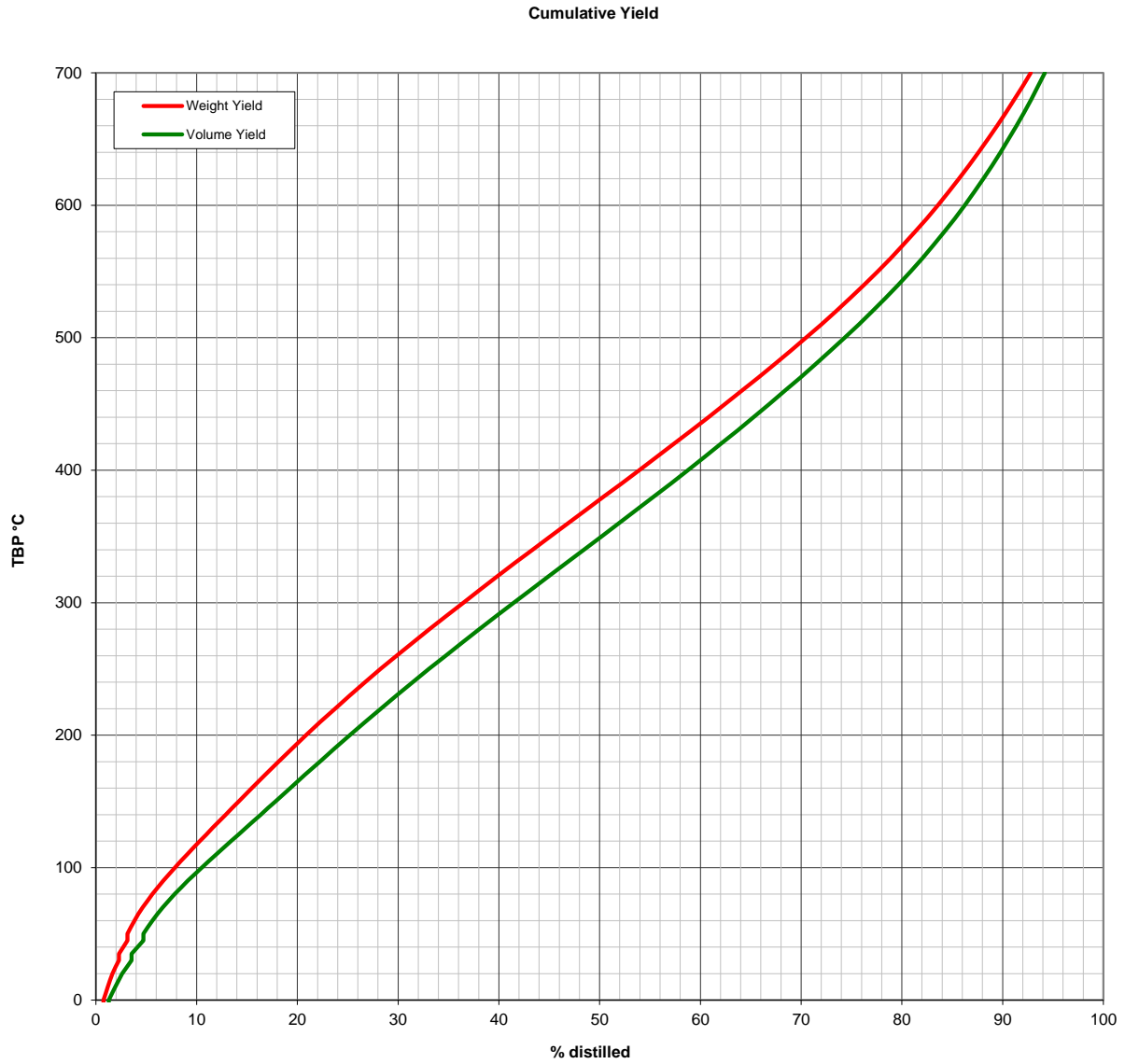
General Information		Molecules (%wt on crude)				Whole Crude Properties			
Reference:	HUNGO18X	methane + ethane	0.02	Density @ 15°C (g/cc)	0.8801				
Name:	Hungo Blend	propane	0.37	<b>API Gravity</b>	<b>29.2</b>				
Origin:	Angola	isobutane	0.24	Total Sulfur (% wt)	0.59				
		n-butane	0.80	Pour Point (°C)	-44				
Assay Date:	12/21/2018	isopentane	0.64	Viscosity @ 20°C (cSt)	24.5				
		n-pentane	0.81	Viscosity @ 40°C (cSt)	11.8				
Comments:		cyclopentane	0.12	Nickel (ppm)	20.6				
		C6 paraffins	1.41	Vanadium (ppm)	17.4				
		C6 naphthenes	0.94	Total Nitrogen (ppm)	2489				
		benzene	0.04	Total Acid Number (mgKOH/g)	0.52				
		C7 paraffins	1.29	Mercaptan Sulfur (ppm)	6.0				
		C7 naphthenes	1.63	Hydrogen Sulfide (ppm)	0.0				
		toluene	0.17	Reid Vapor Pressure (kPa)	68.7				

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	
Yield (% wt)		2.8	3.6	6.3	6.7	7.4	8.2	8.6	3.5	51.4	13.8	8.0	7.1	22.4	
Yield (% vol)		3.8	4.4	7.3	7.4	7.9	8.4	8.7	3.5	46.4	13.2	7.5	6.5	19.1	
Cumulative Yield (% wt)		1.4	4.2	7.8	14.2	20.9	28.3	36.5	45.1	48.6	48.6	62.5	70.5	77.6	
Volume Average B.P. (°C)	358	40.8	83	125	175	225	275	325	360	539	409	475	524	658	
Density @ 15°C (g/cc)	0.8801	0.6419	0.7215	0.7587	0.7939	0.8249	0.8535	0.8698	0.8958	0.9709	0.9177	0.9396	0.9524	1.0261	
API Gravity	29.2	88.9	64.6	55.0	46.7	40.0	34.2	31.1	26.4	14.2	22.6	19.0	17.0	6.3	
UOPK	11.85			11.79	11.72	11.69	11.66	11.78	11.65	11.68	11.66	11.75	11.84	11.57	
Molecular Weight (g/mol)				110	138	170	207	253	284	541	337	432	544	1005	
Total Sulfur (% wt)	0.59	0.000	0.002	0.008	0.033	0.086	0.214	0.403	0.52	0.99	0.65	0.81	0.94	1.29	
Mercaptan Sulfur (ppm)	6.0	0.6	2.6	4.9	3.4	1.0	0.3								
Total Nitrogen (ppm)	2489					11	41	129	277	4797	706	1520	2861	9109	
Basic Nitrogen (ppm)	672					3	28	87	151	1279	296	560	844	2282	
Total Acid Number (mgKOH/g)	0.52	0.00	0.02	0.07	0.18	0.33	0.56	0.84	0.91	0.63	0.92	0.86	0.72	0.34	
Viscosity @ 20°C (cSt)	24.5				1.38										
Viscosity @ 40°C (cSt)	11.8				1.05	1.65	3.04	6.83	13.9						
Viscosity @ 50°C (cSt)	8.77					1.42	2.50	5.24	9.94	2023	28.2	129	515		
Viscosity @ 60°C (cSt)										894	19.0	75.1	262		
Viscosity @ 100°C (cSt)										85.4	6.01	15.7	37.3	14973	
Viscosity @ 130°C (cSt)														1514	
Viscosity @ 150°C (cSt)														480	
RON (Clear)		76.3	53.5	59.4	44.0										
MON (Clear)		74.5	64.2	58.5	42.6										
Paraffins (% wt)	21.9	95.0	51.6	34.3	45.2										
Naphthenes (%wt)	33.2	5.0	47.3	55.3	34.6										
Aromatics (% wt)	44.9	0.0	1.1	10.4	20.3										
Pour Point (°C)	-44					-53	-29	-6	6	25	24	41	50	59	
Cloud Point (°C)						-51	-27	-5							
Freeze Point (°C)						-61	-46	-23							
Smoke Point (mm)						24	19	15							
Cetane Index (D4737A)						37	43	48	55						
Naphthalenes (% vol)						0.0	2.5	8.5	11.2						
Aniline Point (°C)				49.9	53.0	59.2	66.2	71.9	73.9		76.6	82.8	89.5		
Hydrogen (% wt)	13.0	16.5	15.2	14.3	14.0	13.4	13.4	13.2	12.7		12.4	12.2	12.1		
Total Wax (% wt)	6.5									4.3	8.5	5.9	4.6	1.0	
C7 Asphaltenes (% wt)	1.3									2.6	0.0	0.0	0.0	5.9	
Micro Carbon Residue (% wt)	5.2									10.1	0.5	2.7	22.1		
Vanadium (ppm)	17.4									33.8	0.0	0.0	77.5		
Nickel (ppm)	20.6									40.1	0.0	0.0	91.8		
Iron (ppm)	9.1									17.8	0.0	0.0	40.8		
Sodium (ppm)	1.1														
Mercury (ppb)	1.0														
Arsenic (ppb)	82														

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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				3.5	4.1	4.7	5.6	6.6	7.8	9.1
100	10.5	12.0	13.4	14.9	16.4	17.8	19.3	20.7	22.2	23.7
200	25.2	26.7	28.3	29.9	31.4	33.1	34.7	36.4	38.1	39.8
300	41.5	43.2	44.9	46.7	48.4	50.2	51.9	53.6	55.4	57.1
400	58.8	60.4	62.1	63.7	65.3	66.9	68.4	69.9	71.4	72.9
500	74.3	75.7	77.1	78.4	79.6	80.9	82.0	83.2	84.2	85.3