

Reference: BONGA18  
Crude: Bonga



## Crude Summary Report

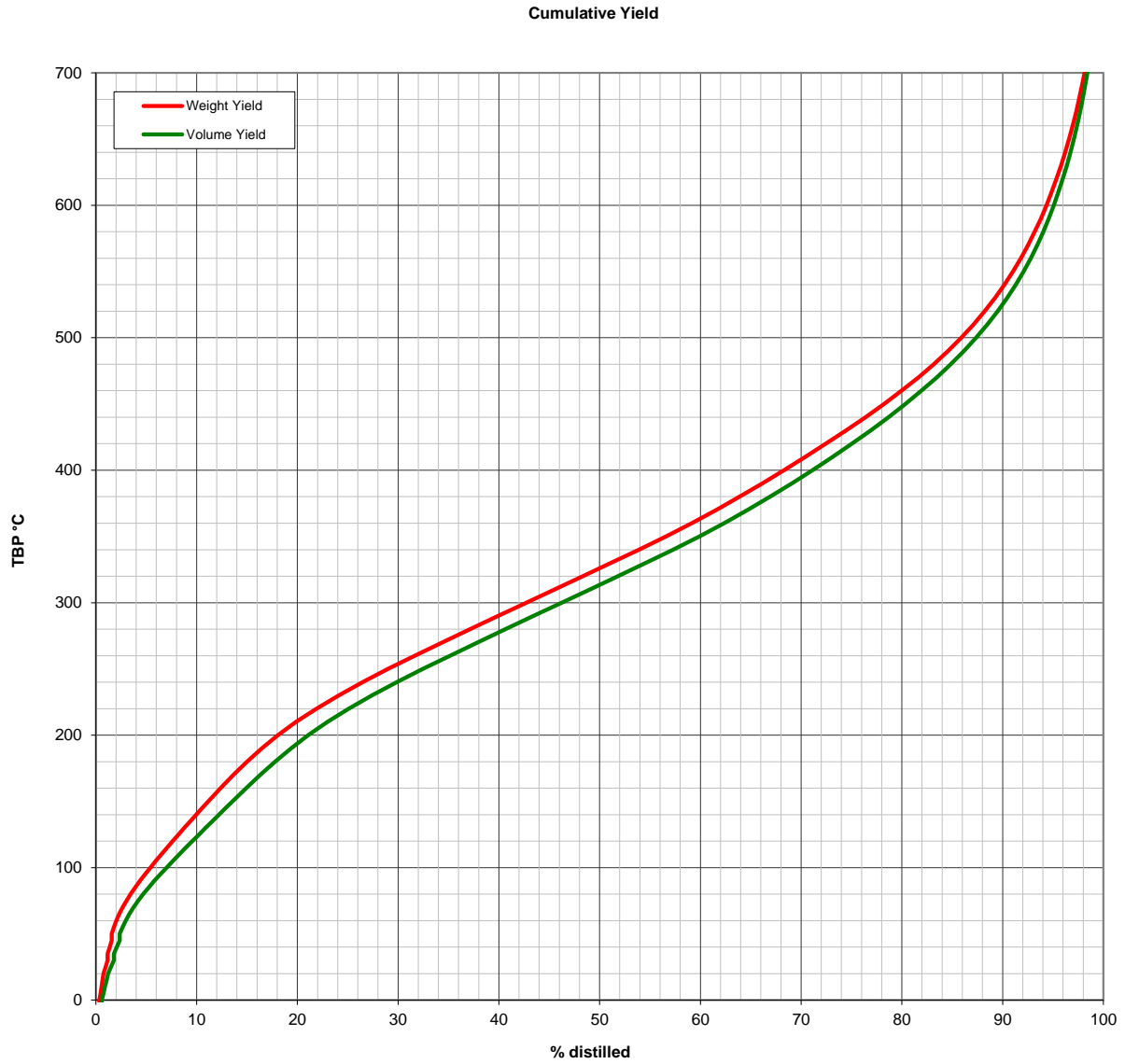
General Information		Molecules (%wt on crude)				Whole Crude Properties			
Reference:	BONGA18	methane + ethane	0.01	Density @ 15°C (g/cc)	0.8901				
Name:	Bonga	propane	0.17	<b>API Gravity</b>	<b>27.4</b>				
Origin:	Nigeria	isobutane	0.17	Total Sulfur (% wt)	0.26				
Assay Date:	11/29/2018	n-butane	0.41	Pour Point (°C)	-44				
Comments:		isopentane	0.40	Viscosity @ 20°C (cSt)	14.2				
		n-pentane	0.42	Viscosity @ 40°C (cSt)	7.5				
		cyclopentane	0.10	Nickel (ppm)	3.6				
		C6 paraffins	0.89	Vanadium (ppm)	0.3				
		C6 naphthenes	0.94	Total Nitrogen (ppm)	1478				
		benzene	0.11	Total Acid Number (mgKOH/g)	0.69				
		C7 paraffins	0.75	Mercaptan Sulfur (ppm)	7.0				
		C7 naphthenes	1.71	Hydrogen Sulfide (ppm)	0.0				
		toluene	0.59	Reid Vapor Pressure (kPa)	29.8				

Cut Data	IBP FBP	Atmospheric Cuts										Vacuum Cuts					
		C5	65	100	150	200	250	300	350	370	370	450	500	550	550		
Start (°C)																	
End (°C)		65	100	150	200	250	300	350	370	FBP	450	500	550	FBP			
Yield (% wt)		1.7	3.1	5.8	6.9	10.9	13.7	13.9	5.0	38.4	16.6	7.7	5.1	9.0			
Yield (% vol)		2.3	3.7	6.5	7.5	11.4	13.8	13.7	4.8	35.3	15.6	7.0	4.7	7.9			
Cumulative Yield (% wt)		0.7	2.3	5.4	11.2	18.1	29.0	42.7	56.6	61.6	61.6	78.2	85.9	91.0			
Volume Average B.P. (°C)	323	42.3	84	125	176	227	275	325	360	488	408	474	523	638			
Density @ 15°C (g/cc)	0.8901	0.6513	0.7421	0.7793	0.8147	0.8527	0.8841	0.9002	0.9218	0.9655	0.9436	0.9689	0.9675	1.0047			
API Gravity	27.4	85.7	59.1	50.0	42.1	34.4	28.5	25.6	21.9	15.0	18.4	14.5	14.7	9.3			
UOPK	11.50			11.48	11.43	11.32	11.26	11.38	11.32	11.50	11.34	11.38	11.65	11.73			
Molecular Weight (g/mol)				109	136	167	200	243	274	428	323	411	528	915			
Total Sulfur (% wt)	0.26	0.000	0.002	0.011	0.037	0.084	0.177	0.276	0.316	0.447	0.323	0.412	0.51	0.67			
Mercaptan Sulfur (ppm)	7.0	0.0	0.0	0.2	2.3	5.1	4.1										
Total Nitrogen (ppm)	1478					21	70	232	490	3668	1269	2799	4184	8566			
Basic Nitrogen (ppm)	574					17	55	170	318	1365	572	1031	1556	3015			
Total Acid Number (mgKOH/g)	0.69	0.00	0.02	0.05	0.10	0.18	0.37	0.73	0.86	1.21	1.10	1.70	1.41	0.88			
Viscosity @ 20°C (cSt)	14.2				1.45												
Viscosity @ 40°C (cSt)	7.45				1.09	1.79	3.47	8.95	23.4								
Viscosity @ 50°C (cSt)	5.72					1.53	2.79	6.57	15.4	794	74.4	734	2492				
Viscosity @ 60°C (cSt)										360	43.5	329	990				
Viscosity @ 100°C (cSt)										39.0	9.53	35.3	74.8	2570			
Viscosity @ 130°C (cSt)														353			
Viscosity @ 150°C (cSt)														132			
RON (Clear)		77.8	61.1	68.4	53.8												
MON (Clear)		76.6	69.7	62.7	48.3												
Paraffins (% wt)	13.6	93.4	39.0	17.7	20.2												
Naphthenes (%wt)	44.0	6.6	57.2	63.6	63.3												
Aromatics (% wt)	42.3	0.0	3.8	18.7	16.5												
Pour Point (°C)	-44					-66	-44	-19	-3	29	19	37	47	50			
Cloud Point (°C)						-65	-42	-17									
Freeze Point (°C)						-79	-57	-35									
Smoke Point (mm)						20	17	14									
Cetane Index (D4737A)						28	32	36	44								
Naphthalenes (% vol)						0.1	3.1	8.0	10.1								
Aniline Point (°C)				44.0	45.9	52.2	57.0	60.5	64.6		72.7	78.8	79.3				
Hydrogen (% wt)	12.6	16.5	14.8	13.7	13.7	12.9	12.9	12.4	12.1		11.8	11.5	11.8				
Total Wax (% wt)	2.8									1.8	3.1	2.0	0.2	0.0			
C7 Asphaltenes (% wt)	0.0									0.0		0.0	0.0	0.0			
Micro Carbon Residue (% wt)	1.4									3.7		0.1	1.8	14.7			
Vanadium (ppm)	0.3									0.9		0.0	0.0	3.7			
Nickel (ppm)	3.6									9.4		0.0	0.0	40.2			
Iron (ppm)	7.6									19.9		0.0	0.0	85.0			
Sodium (ppm)	0.4																
Mercury (ppb)	1.0																
Arsenic (ppb)	213																

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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				1.8	2.1	2.4	3.0	3.7	4.7	5.8
100	7.0	8.3	9.6	10.9	12.2	13.6	14.9	16.3	17.8	19.4
200	21.1	23.0	25.1	27.4	29.9	32.5	35.1	37.9	40.6	43.4
300	46.2	49.0	51.8	54.6	57.3	59.9	62.4	64.7	66.9	69.1
400	71.1	73.1	75.0	76.9	78.7	80.4	81.9	83.4	84.9	86.2
500	87.4	88.5	89.5	90.4	91.3	92.1	92.8	93.4	94.0	94.6