Reference: UPZK223X
Crude: Upper Zakum

ExxonMobil

Crude Summary Report

General Information		Molecules (%wt on crude)		Whole Crude Properties	
Reference:	UPZK223X	methane + ethane	0.02	Density @ 15°C (g/cc)	0.8588
Name:	Upper Zakum	propane	0.31	**API Gravity**	**33.2**
		isobutane	0.26	Total Sulfur (% wt)	2.09
Origin:	Abu Dhabi (UAE)	n-butane	1.19	Pour Point (°C)	-15
		isopentane	0.85	Viscosity @ 20°C (cSt)	10.8
Assay Date:	4/12/2024	n-pentane	1.41	Viscosity @ 40°C (cSt)	6.1
		cyclopentane	0.10	Nickel (ppm)	10.6
Comments:		C6 paraffins	2.52	Vanadium (ppm)	13.0
		C6 naphthenes	0.52	Total Nitrogen (ppm)	906
		benzene	0.09	Total Acid Number (mgKOH/g)	0.08
		C7 paraffins	2.32	Mercaptan Sulfur (ppm)	28.0
		C7 naphthenes	0.70	Hydrogen Sulfide (ppm)	0.0
		toluene	0.36	Reid Vapor Pressure (kPa)	59.8

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)		4.2	4.2	6.8	7.4	7.8	8.2	8.5	3.5	47.8	13.4	7.8	6.8	19.9
Yield (% vol)		5.9	5.3	8.0	8.1	8.2	8.3	8.4	3.3	41.8	12.6	7.0	6.0	16.2
Cumulative Yield (% wt)		1.6	5.8	10.1	16.9	24.3	32.1	40.3	48.8	52.2	52.2	65.6	73.4	80.1
Volume Average B.P. (°C)	333	40.3	83	125	175	225	275	325	360	531	409	474	524	652
Density @ 15°C (g/cc)	0.8588	0.6115	0.6896	0.7359	0.7814	0.8078	0.8441	0.8655	0.8917	0.9786	0.9092	0.9482	0.9671	1.0501
API Gravity	33.2	99.9	73.7	60.7	49.5	43.6	36.1	31.9	27.1	13.0	24.1	17.7	14.7	3.2
UOPK	11.98			12.16	11.91	11.93	11.79	11.84	11.71	11.55	11.77	11.64	11.66	11.28
Molecular Weight (g/mol)				111	139	172	209	254	285	524	341	426	532	948
Total Sulfur (% wt)	2.1	0.000	0.001	0.005	0.048	0.219	1.00	1.95	2.33	3.65	2.73	3.17	3.51	4.50
Mercaptan Sulfur (ppm)	28.0	2.6	7.2	9.8	10.1	12.4	11.1							
Total Nitrogen (ppm)	906					1	18	87	187	1864	491	942	1210	3370
Basic Nitrogen (ppm)	261					3	12	47	89	530	169	297	379	914
Total Acid Number (mgKOH/g)	0.08	0.00	0.00	0.01	0.02	0.03	0.06	0.09	0.12	0.13	0.14	0.15	0.15	0.11
Viscosity @ 20°C (cSt)	10.8				1.25									
Viscosity @ 40°C (cSt)	6.13				0.97	1.49	2.61	5.29	9.59					
Viscosity @ 50°C (cSt)	4.85					1.31	2.19	4.19	7.22	649	17.8	74.2	252	
Viscosity @ 60°C (cSt)										331	12.8	46.7	142	
Viscosity @ 100°C (cSt)										47.0	4.78	12.0	26.4	4883
Viscosity @ 130°C (cSt)														671
Viscosity @ 150°C (cSt)														247
RON (Clear)		74.6	26.5	49.2	35.6									
MON (Clear)		72.0	40.7	51.0	34.6									
Paraffins (% wt)	33.9	97.2	80.9	57.8	60.0									
Naphthenes (%wt)	20.5	2.8	17.2	25.3	18.1									
Aromatics (% wt)	45.6	0.0	1.9	16.9	21.8									
Pour Point (°C)	-15					-41	-21	0	12	22	24	34	40	51
Cloud Point (°C)						-39	-19	2						
Freeze Point (°C)					-52	-35	-15							
Smoke Point (mm)					26	22	18							
Cetane Index (D4737A)					42	51	52	58	56					
Naphthalenes (% vol)					0.0	1.9	8.2	12.0						
Aniline Point (°C)				50.7	55.2	62.9	69.1	72.2	73.1		75.3	78.2	79.9	
Hydrogen (% wt)	13.0	16.6	15.7	14.3	14.2	13.8	13.4	13.0	12.6		12.4	11.9	11.7	
Total Wax (% wt)	10.1									4.8	12.6	4.4	2.1	0.5
C7 Asphaltenes (% wt)	2.1									4.4		0.0	0.0	10.7
Micro Carbon Residue (% wt)	4.8									10.0		0.4	2.6	22.9
Vanadium (ppm)	13.0									27.3		0.0	0.0	65.7
Nickel (ppm)	10.6									22.2		0.0	0.0	53.4
Iron (ppm)	0.5									1.0		0.0	0.0	2.5
Sodium (ppm)	5.0													
Mercury (ppb)	1.0													
Arsenic (ppb)	5													

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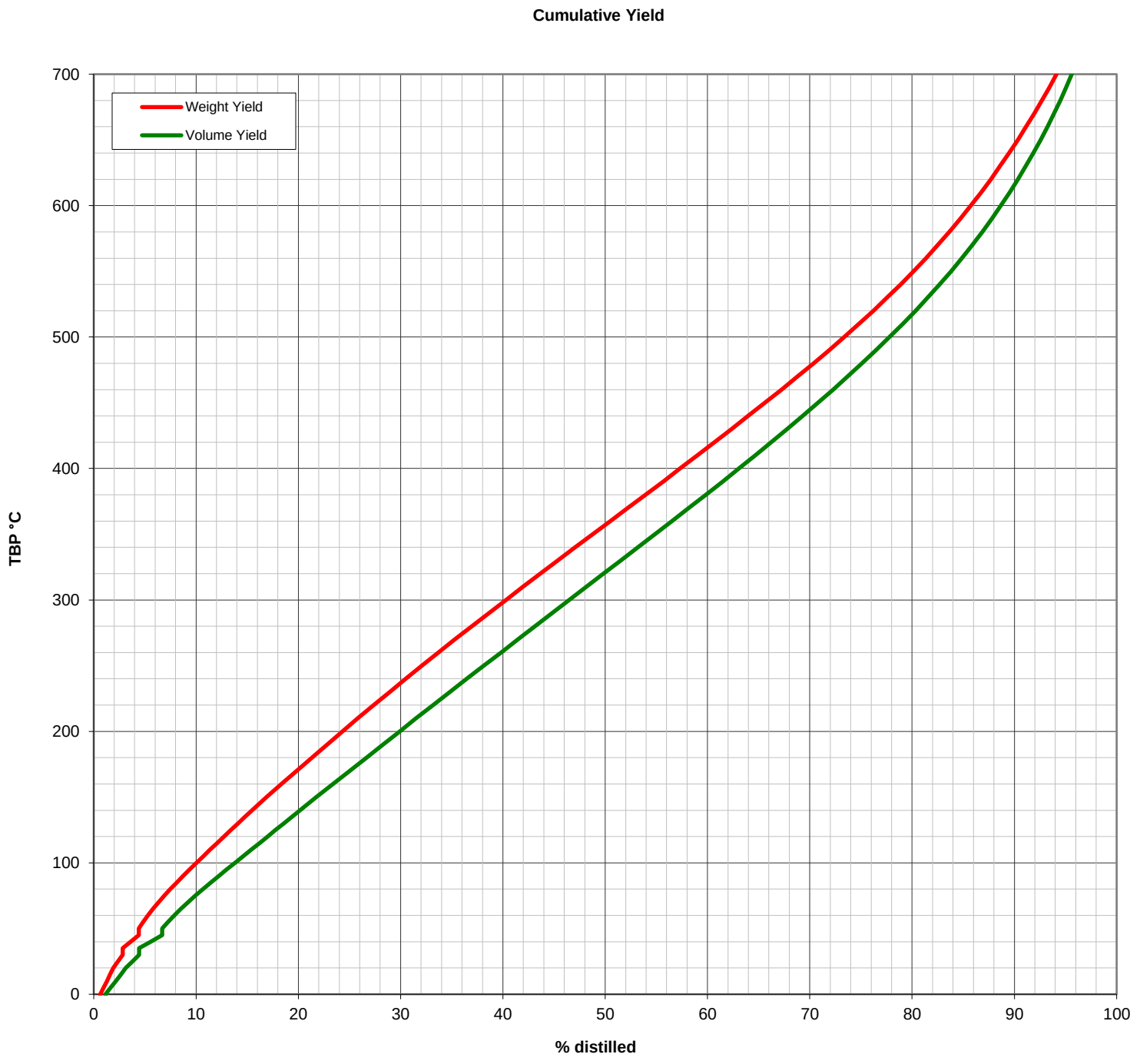
Yield Distribution



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

	0	10	20	30	40	50	60	70	80	90
0				4.4	5.6	6.7	7.9	9.2	10.7	12.2
100	13.8	15.4	17.0	18.6	20.2	21.8	23.4	25.0	26.7	28.3
200	29.9	31.5	33.2	34.8	36.5	38.1	39.8	41.5	43.1	44.8
300	46.5	48.2	49.8	51.5	53.2	54.9	56.5	58.2	59.8	61.5
400	63.1	64.7	66.2	67.8	69.3	70.8	72.3	73.7	75.1	76.5
500	77.8	79.1	80.3	81.5	82.7	83.8	84.9	85.9	86.9	87.8