

Reference: THUND24Y
Crude: Thunder Horse



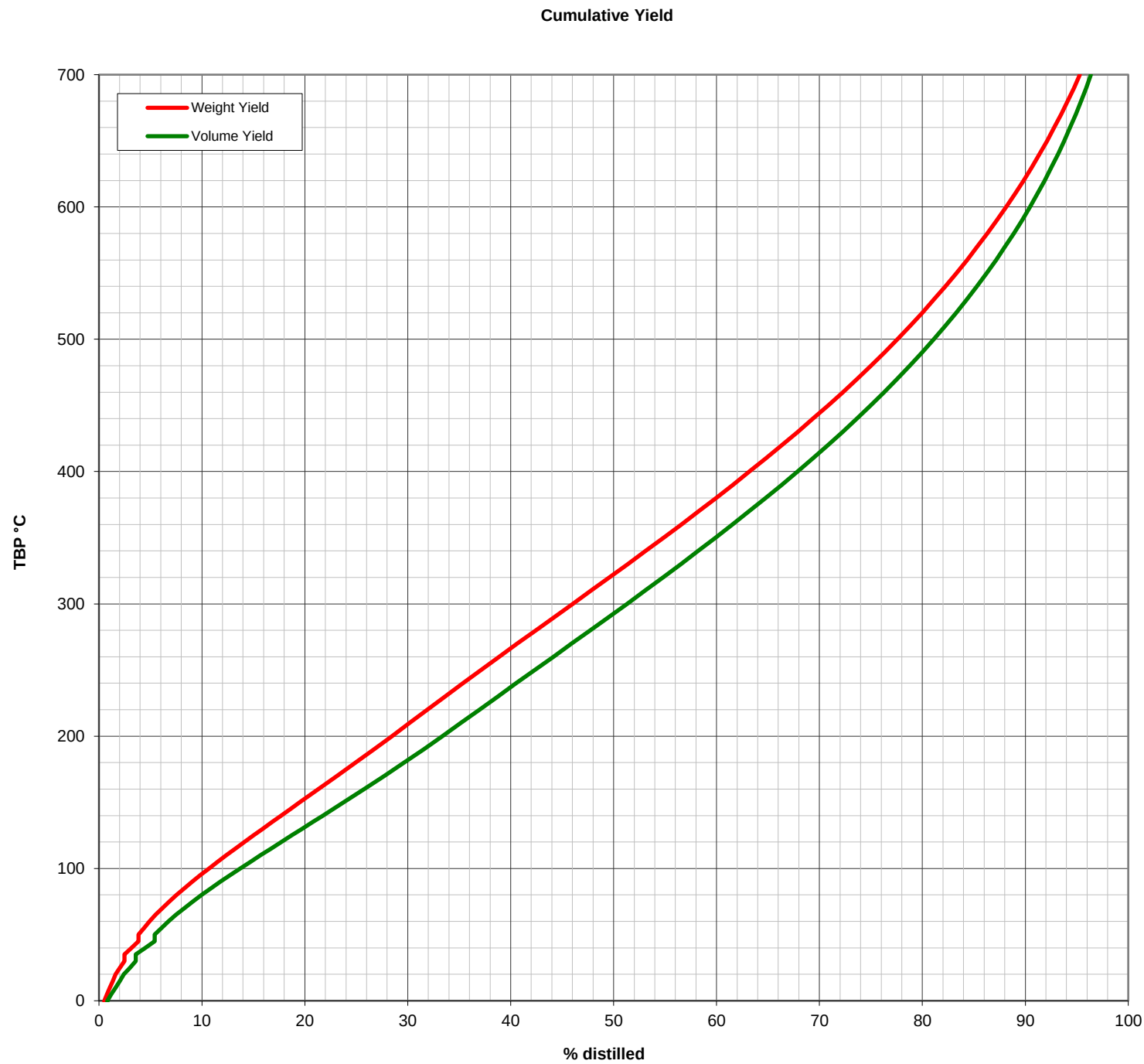
Crude Summary Report

General Information				Molecules (%wt on crude)							Whole Crude Properties										
Reference:	THUND24Y			methane + ethane							0.01	Density @ 15°C (g/cc)				0.8492					
Name:	Thunder Horse			propane							0.30	API Gravity				35.1					
Origin:	Gulf of Mexico			isobutane							0.29	Total Sulfur (% wt)				0.60					
				n-butane							1.27	Pour Point (°C)				-21					
				isopentane							0.92	Viscosity @ 20°C (cSt)				9.4					
Assay Date:	4/12/2024			n-pentane							1.40	Viscosity @ 40°C (cSt)				4.8					
Comments:				cyclopentane							0.14	Nickel (ppm)				7.8					
				C6 paraffins							2.41	Vanadium (ppm)				7.5					
				C6 naphthenes							0.95	Total Nitrogen (ppm)				969					
				benzene							0.19	Total Acid Number (mgKOH/g)				0.07					
				C7 paraffins							2.44	Mercaptan Sulfur (ppm)				9.1					
				C7 naphthenes							1.63	Hydrogen Sulfide (ppm)				0.0					
				toluene							0.52	Reid Vapor Pressure (kPa)				48.5					
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	5.2	8.8	8.9	8.7	8.9	8.8	3.4	41.7	12.6	6.7	5.7	16.7						
Yield (% vol)			5.5	6.2	10.0	9.6	9.0	9.0	8.6	3.3	36.8	11.8	6.1	5.1	13.8						
Cumulative Yield (% wt)			1.3	5.5	10.7	19.5	28.5	37.1	46.0	54.9	58.3	58.3	70.8	77.6	83.3						
Volume Average B.P. (°C)		315	41.9	83	125	175	225	275	325	360	526	409	474	524	651						
Density @ 15°C (g/cc)		0.8492	0.6437	0.7014	0.7423	0.7871	0.8165	0.8402	0.8671	0.8813	0.9573	0.8993	0.9267	0.9434	1.0259						
API Gravity		35.1	88.3	70.2	59.1	48.2	41.7	36.8	31.6	29.0	16.2	25.8	21.1	18.4	6.4						
UOPK		12.00			12.05	11.82	11.80	11.84	11.81	11.85	11.79	11.90	11.91	11.95	11.54						
Molecular Weight (g/mol)					111	138	171	210	253	289	526	344	440	552	970						
Total Sulfur (% wt)		0.6	0.001	0.002	0.004	0.010	0.053	0.232	0.485	0.62	1.22	0.72	0.90	1.12	1.76						
Mercaptan Sulfur (ppm)		9.1																			
Total Nitrogen (ppm)		969					8	34	169	365	2248	692	1218	1720	4016						
Basic Nitrogen (ppm)		327					5	22	62	105	756	200	367	516	1412						
Total Acid Number (mgKOH/g)		0.07	0.00	0.01	0.01	0.02	0.04	0.06	0.09	0.11	0.11	0.13	0.13	0.13	0.08						
Viscosity @ 20°C (cSt)		9.43	1.49																		
Viscosity @ 40°C (cSt)		4.84	1.14										1.70	2.85	5.51	9.68					
Viscosity @ 50°C (cSt)		3.71											1.48	2.39	4.38	7.32	723				
Viscosity @ 60°C (cSt)																	365				
Viscosity @ 100°C (cSt)																	50.1				
Viscosity @ 130°C (cSt)																					
Viscosity @ 150°C (cSt)																					
RON (Clear)			75.1	36.5	55.3	32.2															
MON (Clear)			72.8	52.8	54.7	31.8															
Paraffins (% wt)		33.9	96.1	67.8	45.1	54.7															
Naphthenes (%wt)		28.4	3.9	28.7	39.1	28.5															
Aromatics (% wt)		37.7	0.0	3.5	15.8	16.8															
Pour Point (°C)		-21											-49	-27	-4	8	45	25	42	52	78
Cloud Point (°C)													-46	-23	-1						
Freeze Point (°C)													-64	-44	-21						
Smoke Point (mm)													25	21	17						
Cetane Index (D4737A)													39	47	54	57	61				
Naphthalenes (% vol)													0.2	2.9	7.2	9.1					
Aniline Point (°C)													53.7	57.2	63.1	68.7	73.9	78.0	84.5	92.4	97.7
Hydrogen (% wt)		13.4	16.5	15.4	14.2	14.3	13.7	13.7	13.2	13.0		12.7	12.5	12.4							
Total Wax (% wt)		12.6															12.2	24.6	17.0	10.0	1.6
C7 Asphaltenes (% wt)		2.4															5.8		0.0	0.0	14.4
Micro Carbon Residue (% wt)		3.9															9.4		0.0	1.2	23.1
Vanadium (ppm)		7.5															18.0		0.0	0.0	44.9
Nickel (ppm)		7.8															18.7		0.0	0.0	46.8
Iron (ppm)		1.5															3.6		0.0	0.0	9.1
Sodium (ppm)		6.5																			
Mercury (ppb)		20.4																			
Arsenic (ppb)		7																			

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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				3.6	4.5	5.4	6.8	8.3	10.0	11.8
100	13.7	15.7	17.7	19.8	21.8	23.8	25.7	27.7	29.6	31.5
200	33.4	35.2	37.0	38.8	40.5	42.3	44.1	45.9	47.7	49.5
300	51.3	53.1	54.8	56.5	58.2	59.9	61.5	63.2	64.8	66.3
400	67.9	69.4	70.8	72.2	73.6	75.0	76.3	77.6	78.8	80.0
500	81.1	82.2	83.3	84.3	85.3	86.2	87.2	88.0	88.9	89.7