

Crude Summary Report

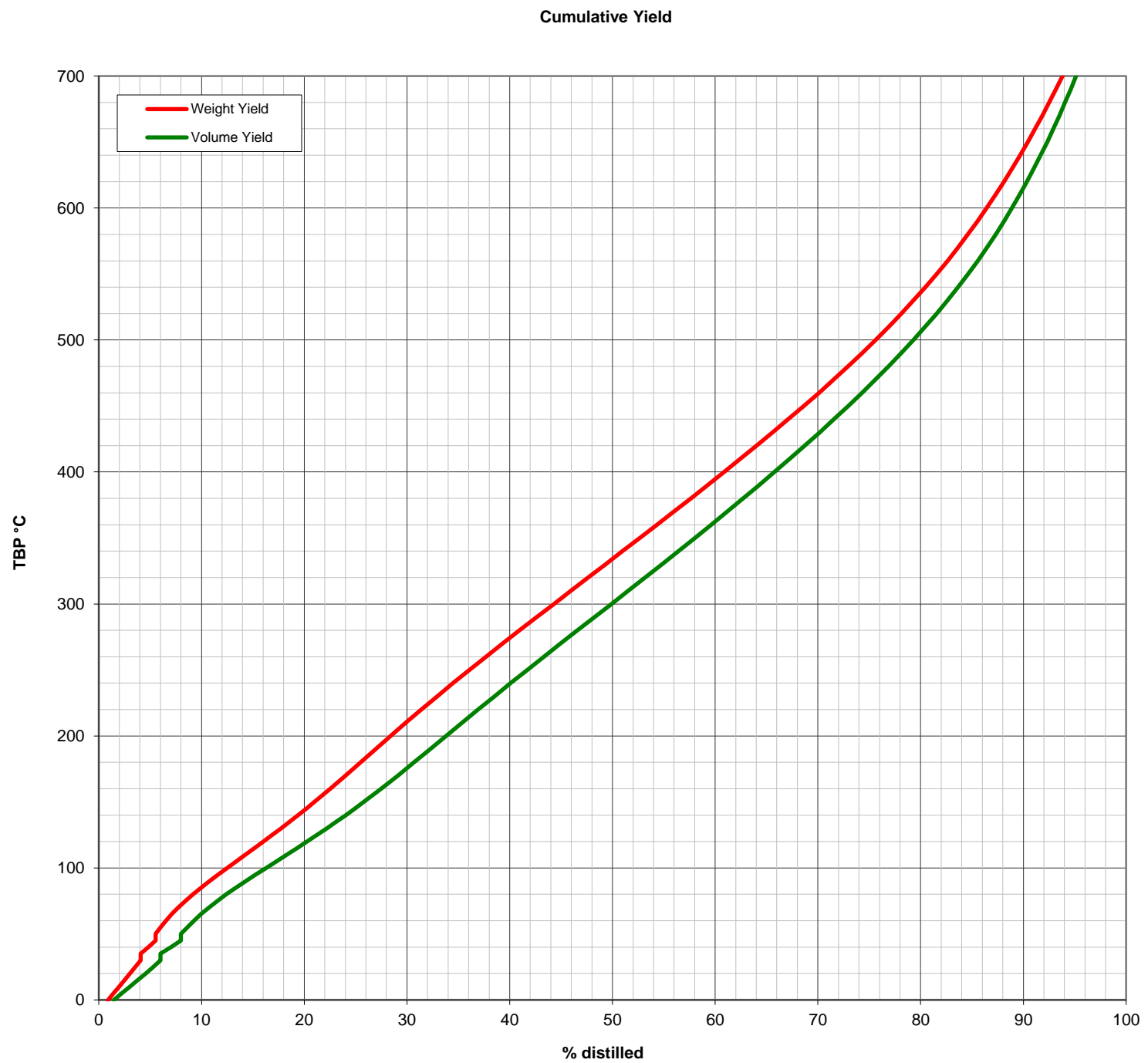
General Information		Molecules (%wt on crude)				Whole Crude Properties			
Reference:	ANS17Y	methane + ethane	0.02	Density @ 15°C (g/cc)	0.8648				
Name:	Alaska North Slope	propane	0.31	API Gravity	32.1				
Origin:	Alaska	isobutane	0.60	Total Sulfur (% wt)	0.96				
Assay Date:	8/15/2017	n-butane	2.14	Pour Point (°C)	-49				
Comments:		isopentane	1.06	Viscosity @ 20°C (cSt)	11.1				
		n-pentane	1.49	Viscosity @ 40°C (cSt)	6.4				
		cyclopentane	0.19	Nickel (ppm)	11.6				
		C6 paraffins	2.16	Vanadium (ppm)	27.7				
		C6 naphthenes	1.34	Total Nitrogen (ppm)	1720				
		benzene	0.35	Total Acid Number (mgKOH/g)	0.20				
		C7 paraffins	1.88	Mercaptan Sulfur (ppm)	3.9				
		C7 naphthenes	2.15	Hydrogen Sulfide (ppm)	0.0				
		toluene	0.86	Reid Vapor Pressure (kPa)	73.0				

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	
End (°C)															
Yield (% wt)		4.6	5.4	8.5	7.4	7.7	8.2	8.4	3.3	44.0	12.6	7.0	5.9	18.4	
Yield (% vol)		6.2	6.3	9.5	8.0	7.9	8.2	8.1	3.2	38.8	11.8	6.3	5.3	15.4	
Cumulative Yield (% wt)		2.5	7.1	12.5	21.0	28.4	36.1	44.3	52.7	56.0	56.0	68.6	75.6	81.6	
Volume Average B.P. (°C)	319	39.3	83	124	175	225	275	325	360	535	409	474	524	660	
Density @ 15°C (g/cc)	0.8648	0.6418	0.7330	0.7665	0.7957	0.8319	0.8629	0.8845	0.9056	0.9736	0.9216	0.9468	0.9585	1.0296	
API Gravity	32.1	88.9	61.5	53.1	46.3	38.5	32.4	28.4	24.7	13.8	22.0	17.9	16.1	5.8	
UOPK	11.81			11.67	11.69	11.59	11.53	11.58	11.53	11.63	11.61	11.65	11.76	11.54	
Molecular Weight (g/mol)				109	137	169	205	248	280	527	334	427	539	1009	
Total Sulfur (% wt)	1.0	0.001	0.002	0.006	0.027	0.098	0.360	0.79	1.02	1.86	1.16	1.41	1.68	2.57	
Mercaptan Sulfur (ppm)	3.9	12.7	15.3	11.7	6.4	4.5	3.1								
Total Nitrogen (ppm)	1720					2	24	132	308	3856	791	1394	1500	7647	
Basic Nitrogen (ppm)	497					2	21	68	130	1103	304	561	749	1969	
Total Acid Number (mgKOH/g)	0.20	0.00	0.00	0.01	0.01	0.02	0.07	0.25	0.32	0.36	0.36	0.43	0.46	0.31	
Viscosity @ 20°C (cSt)	11.1				1.36										
Viscosity @ 40°C (cSt)	6.42				1.03	1.65	3.06	6.78	13.5						
Viscosity @ 50°C (cSt)	5.11					1.42	2.52	5.19	9.67	1909	27.4	141	631		
Viscosity @ 60°C (cSt)										843	18.5	80.9	312		
Viscosity @ 100°C (cSt)										80.8	5.89	16.3	41.3	20054	
Viscosity @ 130°C (cSt)														1858	
Viscosity @ 150°C (cSt)														565	
RON (Clear)		75.5	44.4	64.7	38.8										
MON (Clear)		73.5	60.5	60.3	37.3										
Paraffins (% wt)	25.0	95.0	54.9	29.2	44.2										
Naphthenes (%wt)	31.0	4.9	38.5	49.1	37.3										
Aromatics (% wt)	44.0	0.0	6.5	21.7	18.5										
Pour Point (°C)	-49					-50	-30	-7	6	25	23	39	46	60	
Cloud Point (°C)						-47	-27	-4							
Freeze Point (°C)						-53	-42	-24							
Smoke Point (mm)						23	19	15							
Cetane Index (D4737A)						35	40	44	49	50					
Naphthalenes (% vol)						0.1	3.1	8.8	11.1						
Aniline Point (°C)				49.4	51.7	57.2	62.7	67.0	69.6		75.3	81.6	83.2		
Hydrogen (% wt)	13.1	16.5	14.9	13.7	14.1	13.2	13.1	12.8	12.5		12.2	12.1	12.0		
Total Wax (% wt)	5.8									3.0	8.5	3.0	0.5	0.0	
C7 Asphaltenes (% wt)	2.6									5.9	0.0	0.0	14.0		
Micro Carbon Residue (% wt)	4.5									10.2	0.5	2.7	23.3		
Vanadium (ppm)	27.7									62.9	0.0	0.0	150.0		
Nickel (ppm)	11.6									26.3	0.0	0.0	62.8		
Iron (ppm)	0.9									2.1	0.0	0.0	5.1		
Sodium (ppm)	4.1														
Mercury (ppb)	1.4														
Arsenic (ppb)	43														

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Reference: **ANS17Y**
 Crude: **Alaska North Slope**

Yield Distribution



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

	0	10	20	30	40	50	60	70	80	90
0				6.0	7.0	8.0	9.3	10.7	12.4	14.3
100	16.3	18.3	20.3	22.2	24.0	25.8	27.5	29.1	30.7	32.2
200	33.8	35.4	36.9	38.5	40.1	41.7	43.3	45.0	46.6	48.2
300	49.9	51.5	53.2	54.8	56.4	58.0	59.6	61.2	62.7	64.3
400	65.8	67.3	68.7	70.2	71.6	72.9	74.3	75.6	76.9	78.1
500	79.3	80.4	81.6	82.6	83.6	84.6	85.6	86.4	87.3	88.1