

[Pembina Kakwa 8-13-63-5W6] Phase 2 Heat Medium

Customer: PTRHTF20062

Pembina Gas Services

GRANDE PRAIRIE, AB T8V 7K2 Canada

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System Information

System Volume: 84000 ltr

Bulk Operating Temp: 482F / 250C

Heating Source:

Blanket:

Fluid: PETRO CANADA CALFLO AF

Make: HEATECH

Sample Information

Lab No: 02516976 Analyst: Clinton Buhler Sample Date: 08/04/22 Received Date: 10/18/22 Completed: 10/24/22

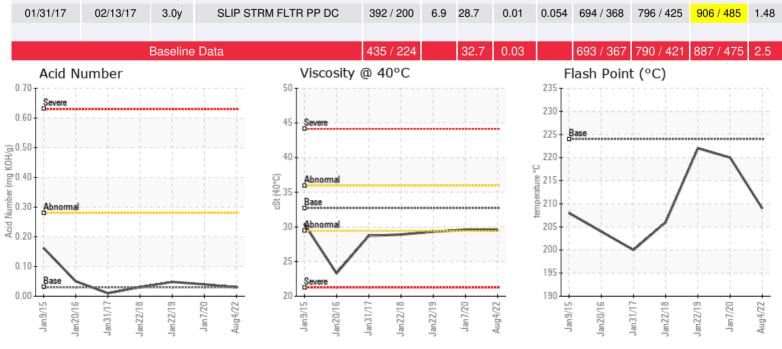
Clinton Buhler

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Recommendation: Sample results indicate the fluid is in suitable condition for continued service. Please re-sample in 12 months

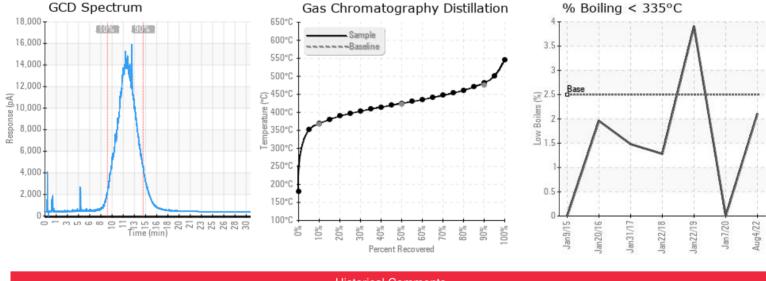
Comments:

Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	306 GCD	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/ g	%wt	°F/°C	°F/°C	°F/°C	%
08/04/22	10/18/22	0.0y	FILTER POT LINE	408 / 209	9.0	29.5	0.03	0.344	695 / 368	796 / 425	899 / 482	2.11
01/07/20	02/03/20	5.0y	SLIPSTREAM	428 / 220	0.00	29.6	0.040	0.043	720 / 382	797 / 425	886 / 474	0.00
01/22/19	02/04/19	5.0y	FILTER POT	432 / 222	21.9	29.3	0.048	0.044	668 / 353	772 / 411	876 / 469	3.91
01/22/18	01/29/18	4.0y		403 / 206	33.2	28.9	0.03	0.067	685 / 363	782 / 417	896 / 480	1.28
01/31/17	02/13/17	3.0y	SLIP STRM FLTR PP DC	392 / 200	6.9	28.7	0.01	0.054	694 / 368	796 / 425	906 / 485	1.48
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5





Elemental analysis results (above) in parts per million (ppm). [10,000 ppm = 1.0%]



Historical Comments							
01/07/20	Sample results indicate that the fluid is suitable for continued service. Please re-sample in 12 months (GCD) 10% Distillation Point is marginally high.						
01/22/19	Sample results indicate the fluid is suitable for continued service. Please re-sample in 12 months						
01/22/18	Sample results indicate that the fluid is suitable for continued service. Consider sampling again in 12 months.						
01/31/17	(GCD) 90% Distillation Point is marginally high. TAN and Viscosity are within spec. Flash point is marginally lower then normal however fluid is suitable for continued use. Resample in 6 months. (GCD) 90% Distillation Point is marginally high.						

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