

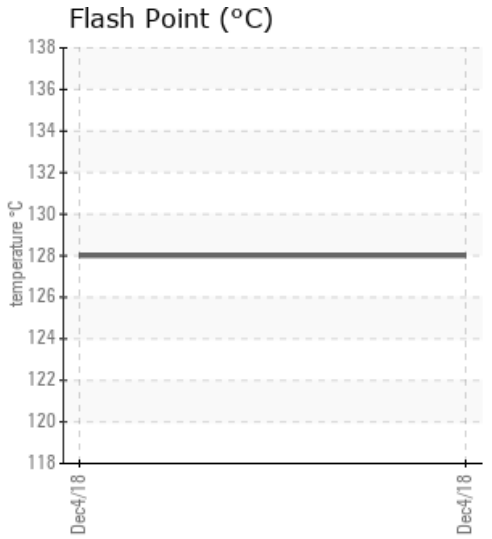
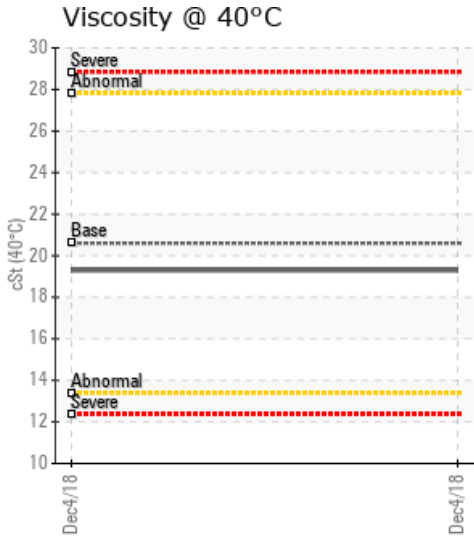
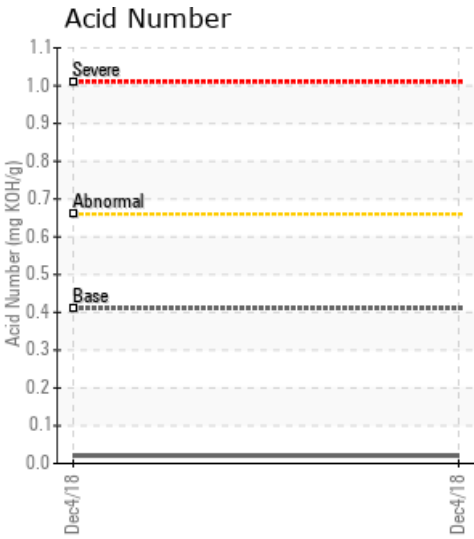
### H-30

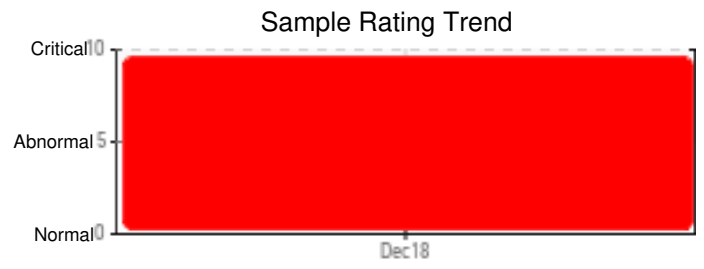
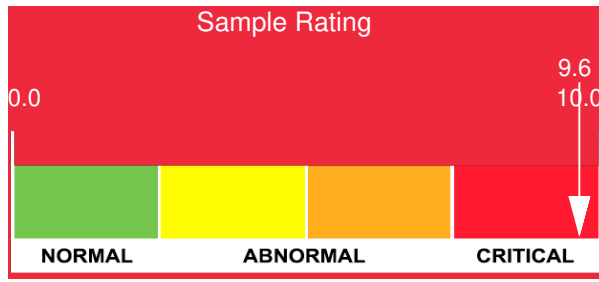
Customer: PTRHTF20208	System Information	Sample Information
Plains Midstream Canada PO Box 3210 Range Road 221 Fort Saskatchewan, AB T8L 2T2 Canada Attn: Marlon Gonzalez Tel: (780)992-2724 E-Mail:	System Volume: 1000 ml Bulk Operating Temp: 482F / 250C Heating Source: Blanket: Fluid: HEAT TRANSFER FLUID ISO 22 Make:	Lab No: 02258647 Analyst: Peter Harteveld Sample Date: 12/04/18 Received Date: 12/20/18 Completed: 12/24/18

Recommendation: This analysis report serves as the baseline reference for top-up with Petro-Therm. The fill of the system is a mix of Esso Oil 1156 and Thermoil 32. Interpretation of fluid condition is based on a generic ISO VG 22 fluid and therefore the sample has a severe rating. Considering part of the fill is Esso Oil 1156, the condition reflected in this analysis report is normal. In this case the important parameters are Acid Number, water content, Fe (corrosion) and Pentane Insoluble (solids) content. The AN and water content are low. There is no Fe which means corrosion is not taking place. Solids content is low. Please re-sample in 6 months. List oil service life, blanket gas info and system volume on the analysis request form when sending in the next sample.

Comments: (GCD) % < 335°C is severely high. (GCD) 10% Distillation Point is severely low. (GCD) 50% Distillation Point is severely low. (GCD) 90% Distillation Point is abnormally low. COC Flash Point is abnormally low.

Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/04/18	12/20/18	0h		262 / 128	18.8	19.3	0.021	0.024	442 / 228	560 / 293	827 / 442	65.37
Baseline Data				354 / 179		20.6	0.41		617 / 325	739 / 393	856 / 458	14.6

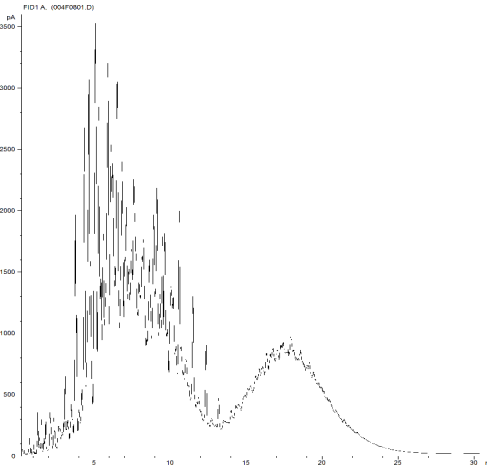




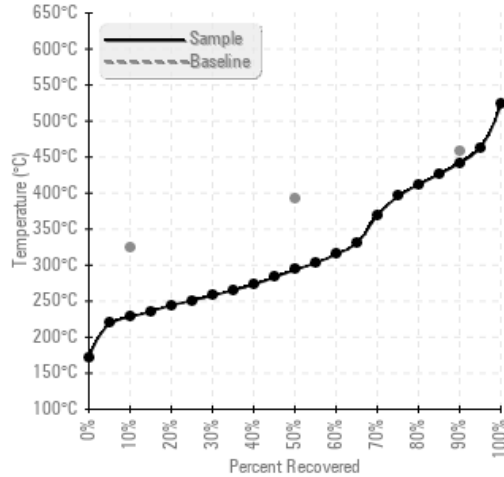
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc	
12/04/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Baseline Data</b>			0	0						0			0	0					5					250	

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

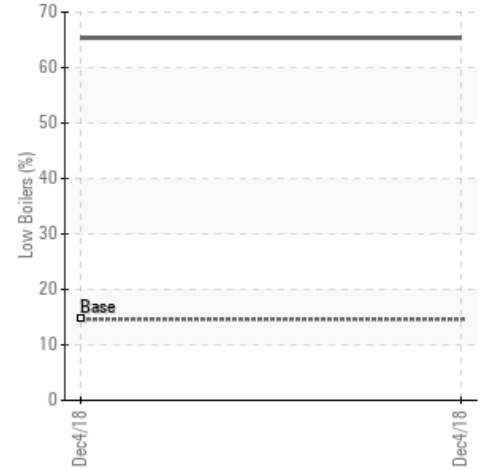
#### GCD Spectrum



#### Gas Chromatography Distillation



#### % Boiling < 335°C



#### Historical Comments


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