

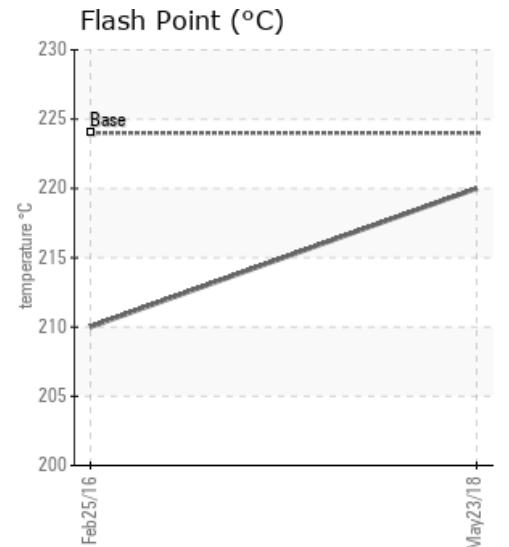
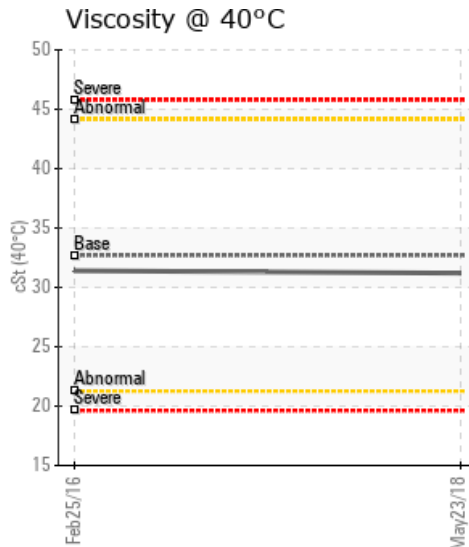
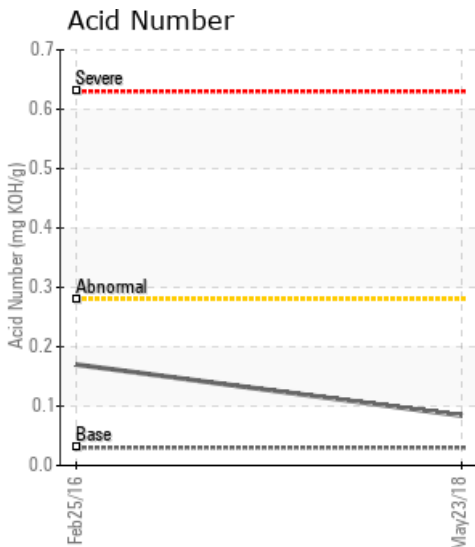
## 250/500 HOT OIL VESSEL

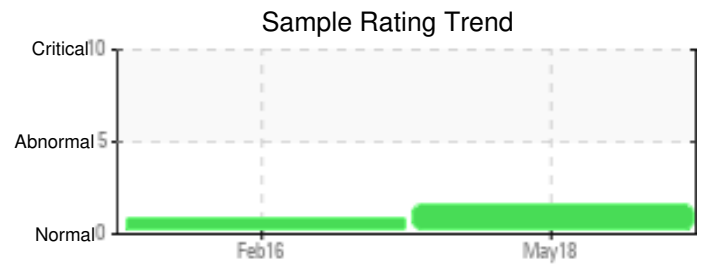
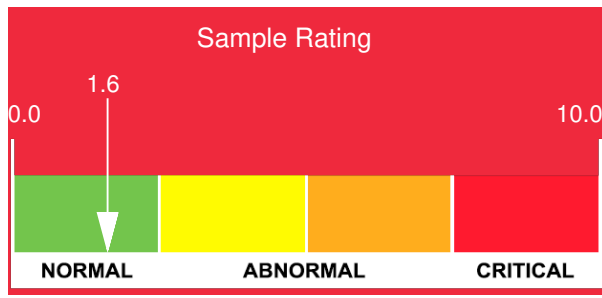
Customer: PTRHTF10039	System Information	Sample Information
Piedmont Chemical Industries 331 BURTON AVE. HIGH POINT, NC 27261 USA Attn: GEORGE WETTE Tel: (336)885-5131 E-Mail:	System Volume: 250 gal Bulk Operating Temp: 554F / 290C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make:	Lab No: 02220416 Analyst: Manny Garcia Sample Date: 05/23/18 Received Date: 06/05/18 Completed: 06/08/18 To discuss this report contact Manny Garcia at 954-384-7259

Recommendation: Fluid is suitable for continued use. Please submit the next sample in May, 2019

Comments: Pentane Insolubles levels are severely high. Very light debris seen by the chemist. Filtering the fluid and/or changing any system filters is recommended during a safe timeframe.

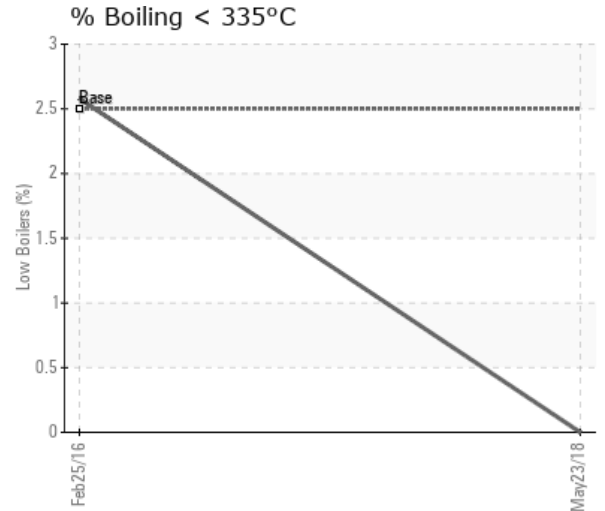
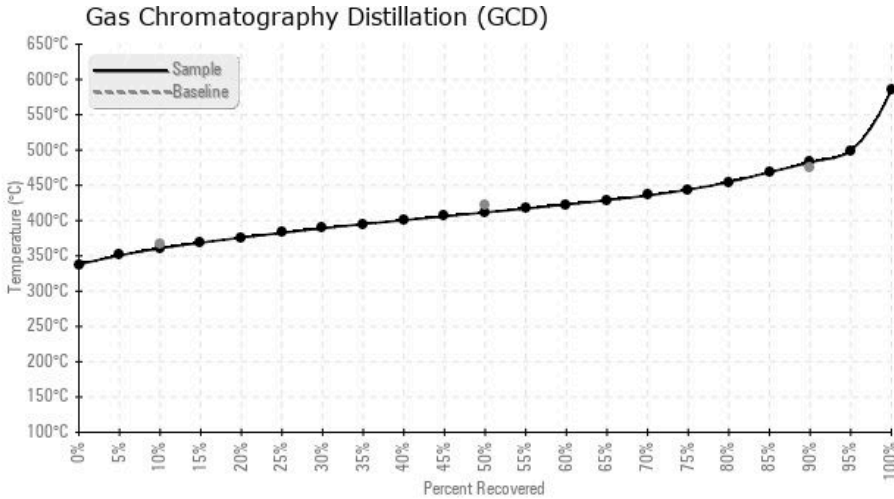
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/23/18	06/05/18	12y		428 / 220	17.9	31.2	0.084	0.700	681 / 361	773 / 412	901 / 483	0.00
02/25/16	03/02/16	10y	HEATER UNIT	410 / 210	16.6	31.4	0.17	0.509	687 / 364	790 / 421	890 / 476	2.58
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5





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
05/23/18	81	0	1	0	2	0	0	0	0	0	3	1	0	0	0	0	1	0	0	1	0	0	210	0
02/25/16	100	0	2	0	2	0	1	0	0	0	4	2	0	0	0	0	1	0	0	1	0	0	218	0
<b>Baseline Data</b>			0	0						0			0	0					0				270	

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



Historical Comments	
02/25/16	Oil condition is very good after 10 years of Operation. Recommend the fluid be run thru appx 5-10 micron filtration during next opportunity (shut-down) to clean up the solids/metals/debris in the fluid. Continue Use Wear Metals are low; Contaminants are low; Additives are satisfactory; Water is nil; Total Acid number is low; Viscosity is very good; Flash Point is good; Distillation points are acceptable at all levels; pentane solids are high; White Metal and debris visible/light in the sample

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.