

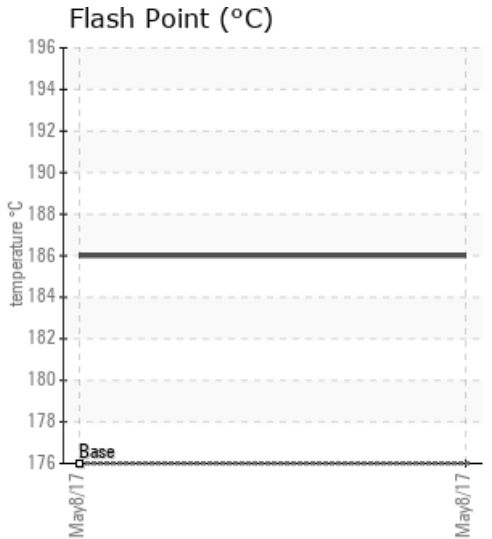
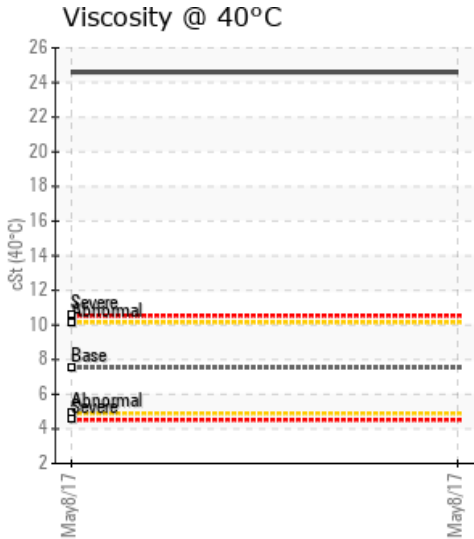
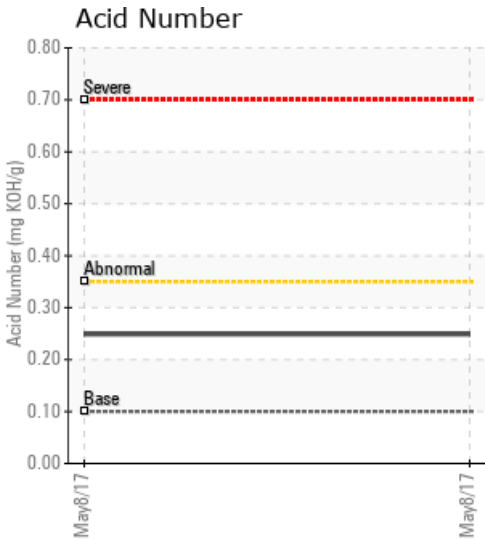
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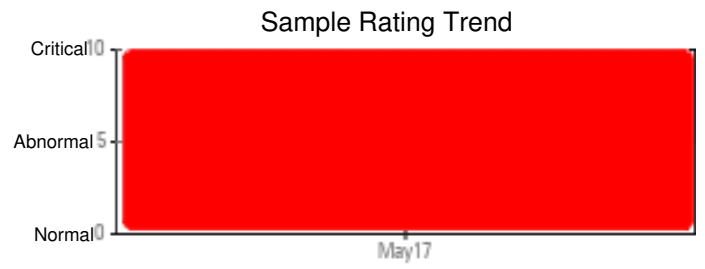
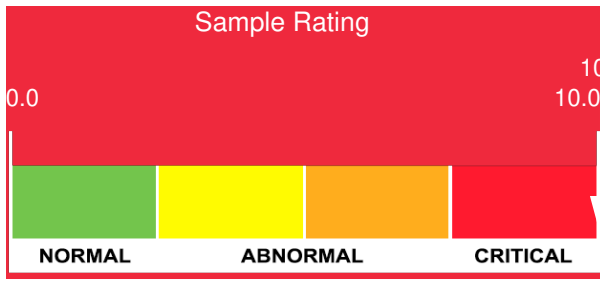
Customer: PTRHTF10189	System Information	Sample Information
HALOCARBON PRODUCTS CORP. P.O. BOX 6369 NORTH AUGUSTA, SC 29841 USA Attn: Brian Farr Tel: (803)278-3500 E-Mail: bfarr@halocarbon.com	System Volume: 75 gal Bulk Operating Temp: 437F / 225C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO LT Make: N/A	Lab No: 02147763 Analyst: Manny Garcia Sample Date: 05/08/17 Received Date: 05/25/17 Completed: 09/05/17 Manny Garcia manuel.garcia@petrocanadalsp.com

Recommendation: This sample was taken on May 8th 2017. It must have been lost in transit as we have just received & processed the fluid. Please include the hours on the Calflo LT and the hours on the Heat Transfer system during the next routine sample. 'Venting' the heat transfer system may assist in bring the distillation numbers back in line, but there are many other factors to the condition of this oil that is unsatisfactory for continued use. Considering the system is only 75 gallons, it is recommended to drain the fluid and refill with Calflo LT

Comments: Iron levels are very high at 421ppm; Pentane Insolubles are high; (GCD) 50% Distillation Point is severely high; (GCD) 90% Distillation Point is severely high; Visc @ 40°C is severely high - 7.5 Cst is the expected viscosity and the sample shows 24.6 CsT. (GCD) 10% Distillation Point is marginally high. Very light white metals visible in the fluid.

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	%
05/08/17	05/25/17	0h	FROM CIRCULATION PMP	367 / 186	34.9	24.6	0.249	0.478	642 / 339	778 / 415	889 / 476	8.68
Baseline Data				349 / 176		7.52	0.1		604 / 318	640 / 338	734 / 390	35.0

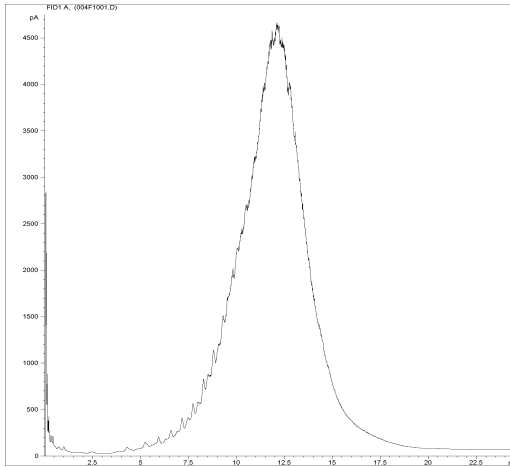




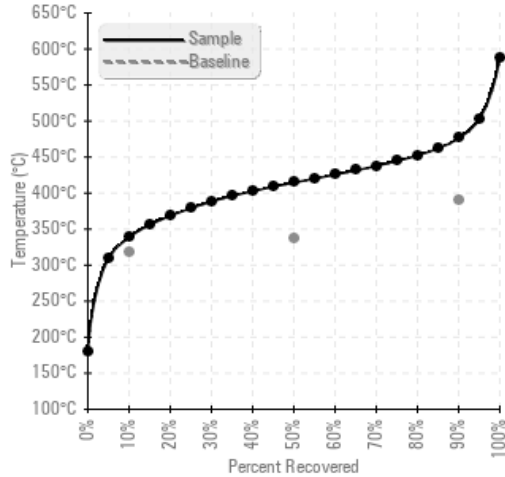
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
05/08/17	421	0	0	0	0	0	0	0	0	0	11	1	0	0	0	0	3	0	0	0	0	0	170	0
Baseline Data			0	0						0			0	0					0				270	

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

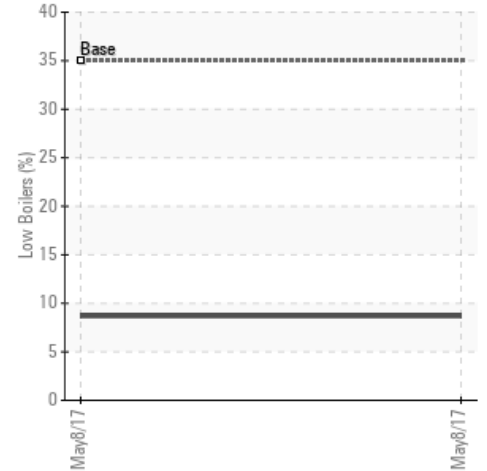
GCD Spectrum



Gas Chromatography Distillation



% Boiling < 335°C



Historical Comments