

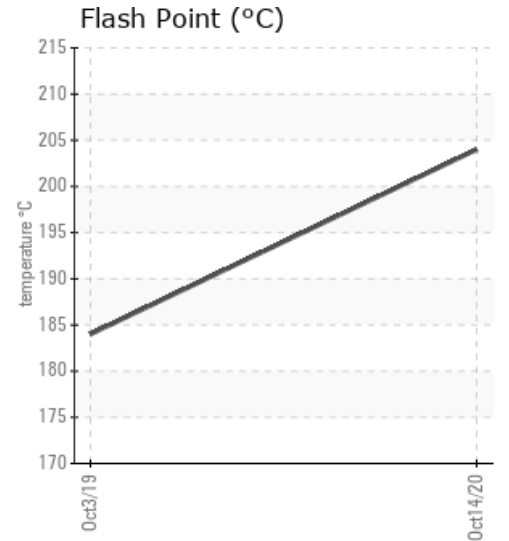
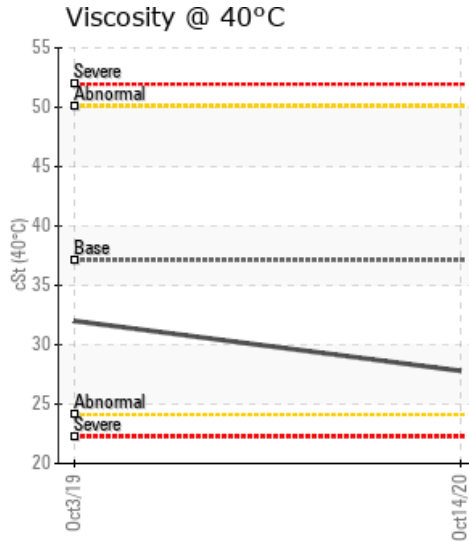
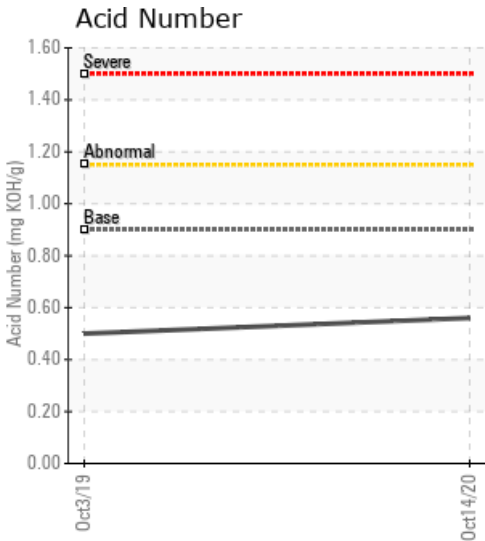
IGI SRL

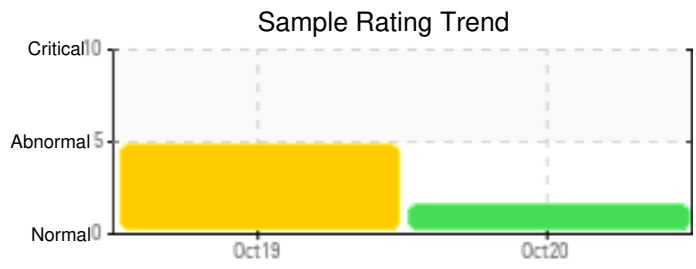
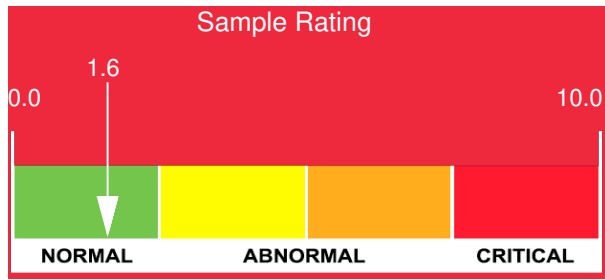
Customer: PTRHTF40088	System Information	Sample Information
EMANUELE MASCHERPA SPA VIA NATALE BATTAGLIA 39 MILAN, Italy Attn: MARCO MUNAFO Tel: (390)228-0031 E-Mail: m.munafo@mascherpa.it	System Volume: 15000 ltr Bulk Operating Temp: 536F / 280C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make:	Lab No: 02386076 Analyst: Philip Riley Sample Date: 10/14/20 Received Date: 11/09/20 Completed: 11/13/20 Philip Riley philip.riley@petrocanadalsp.com

Recommendation: Slight evidence of fluid cracking on the distillation curve, and a lower (but recovered) flash point but otherwise meeting all parameters. Fluid fit for further use based on this sample and please re-sample at normal frequency. Fluid looks to have been recovered slightly from a lower flash point in the last one.

Comments: COC Flash Point is marginally low. (GCD) 10% Distillation Point is marginally low.

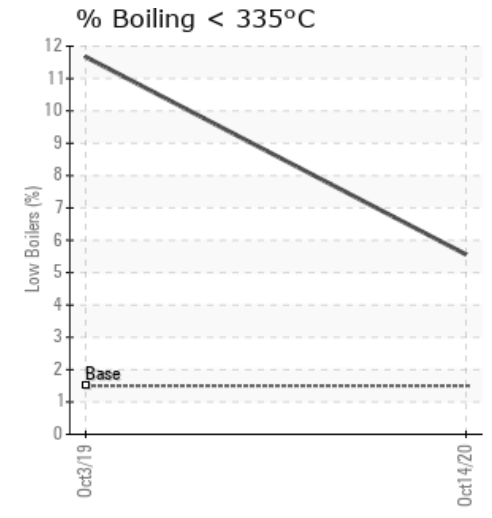
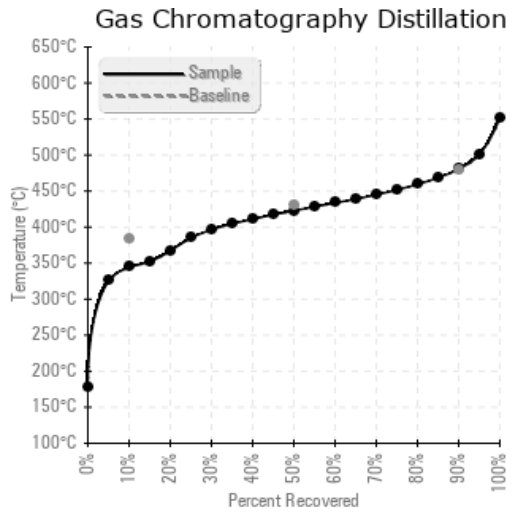
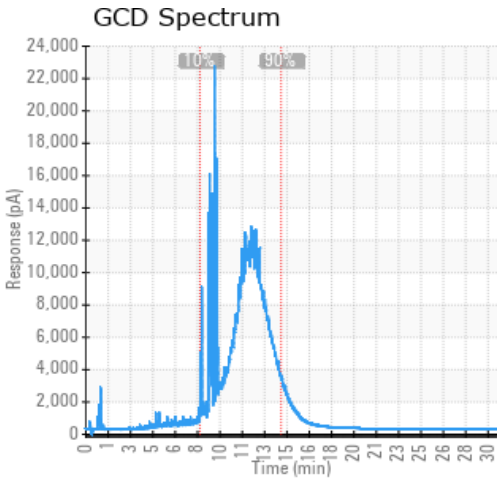
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
10/14/20	11/09/20	21000h		399 / 204	9.7	27.8	0.56	0.066	652 / 344	793 / 423	897 / 481	5.56
10/03/19	11/04/19	1h		363 / 184	6.6	32.0	0.500	0.099	627 / 331	777 / 414	884 / 474	11.67
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5





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
10/14/20	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
10/03/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	6
Baseline Data			0	0						0			0	0				0	0				230	

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



Historical Comments	
10/03/19	Slightly low COC Flash point and evidence of fluid cracking on the distillation curve. Appears to be 1 year old, do we have bulk temperature of the oil and other parameters for equipment? Recommend a re-sample to confirm this result before more actions, taking care to take a correct sample, plus add in the system details, especially bulk temperature. (GCD) 10% Distillation Point is severely low. (GCD) % < 335°C is abnormally high. COC Flash Point is abnormally low.

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