

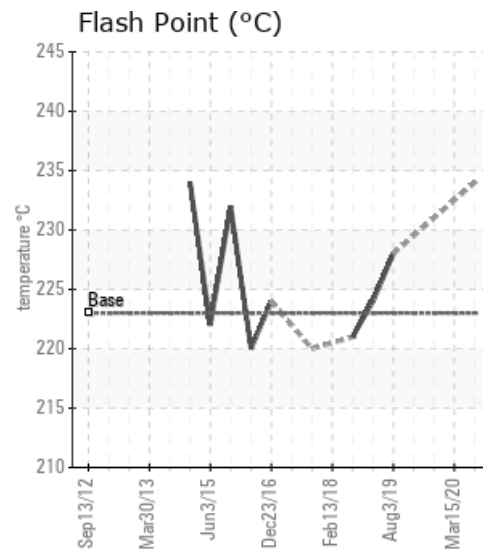
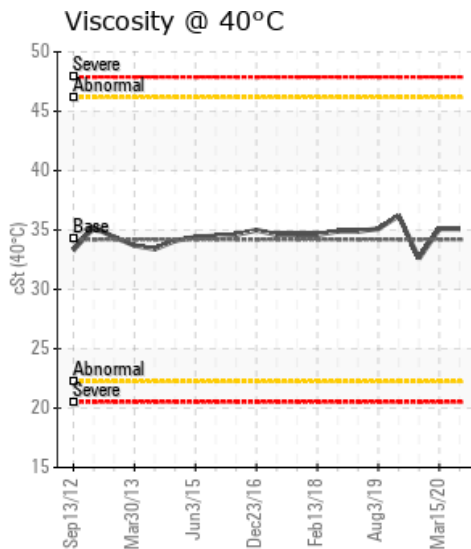
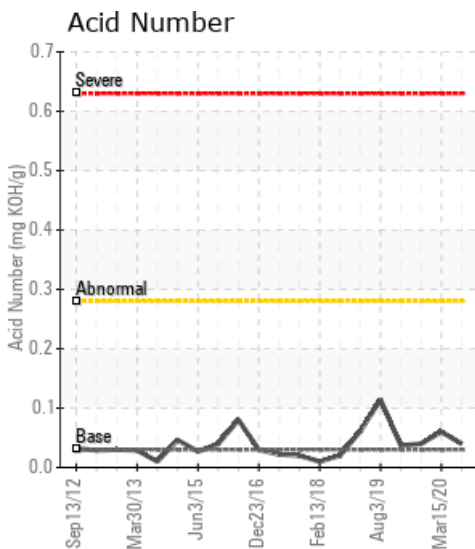
[SARAH] SARAH - THERMAL OIL SYSTEM CIRCULATING OIL

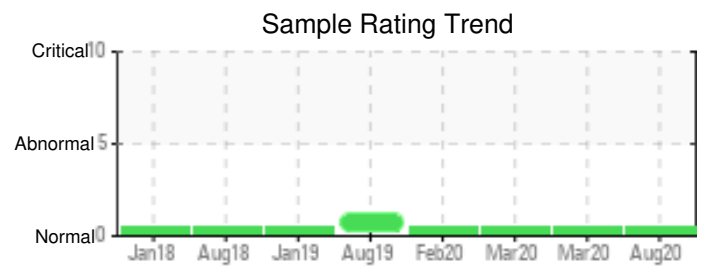
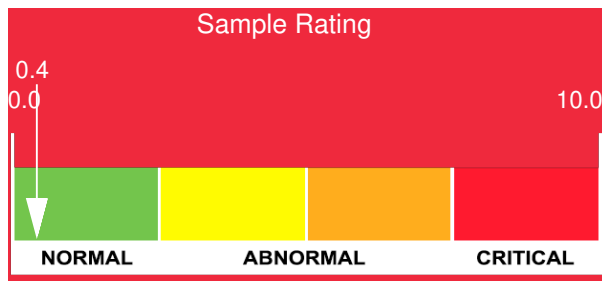
Customer: PTRHTF30015	System Information	Sample Information
Transport Desgagnes Inc. 21 Marche Champlain Suite 100 Quebec City, QC G1K 8Z8 Canada Attn: Sonia Desmarais Tel: (418)692-1000 E-Mail:	System Volume: 6000 ltr Bulk Operating Temp: 392F / 200C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: AALBORG	Lab No: 02370809 Analyst: Bill Quesnel CLS,OMA II,MLA-III,LLA-I Sample Date: 08/13/20 Received Date: 08/17/20 Completed: 08/21/20 Bill Quesnel CLS,OMA II,MLA-III,LLA-I

Recommendation: Resample at the next service interval to monitor.

Comments: {not applicable} The water content is negligible. There is no indication of any contamination in the fluid. Calcium ppm levels are notably high. The condition of the fluid is suitable for further service.

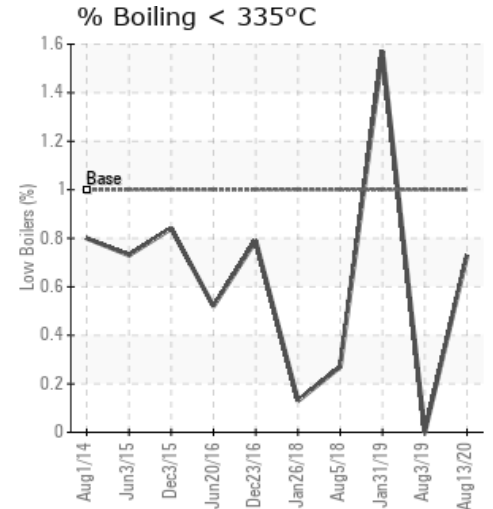
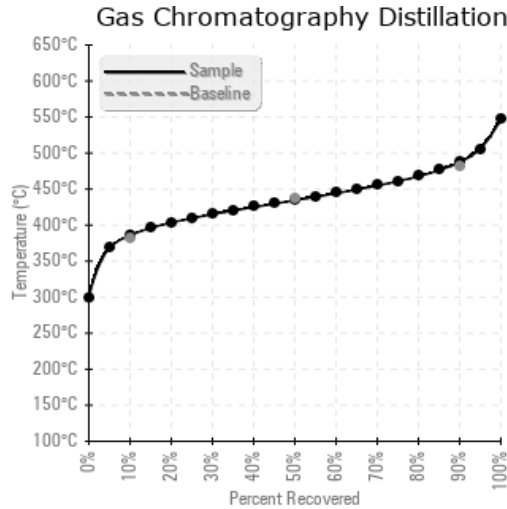
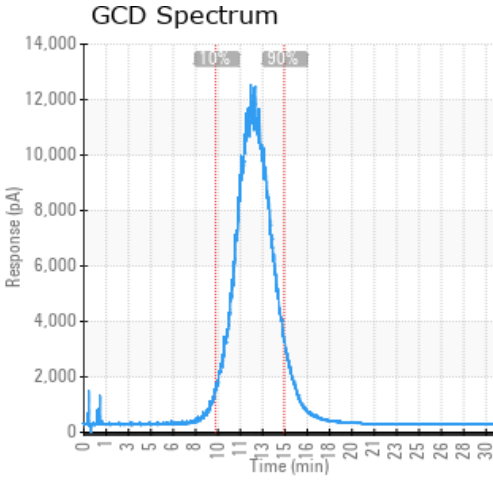
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/13/20	08/17/20	0y	PUMP DISCHARGE	453 / 234	14.0	35.1	0.04	0.067	726 / 386	814 / 435	909 / 487	0.73
03/15/20	04/08/20	0y				35.1	0.06					
03/05/20	06/04/20	0y				32.6	0.04					
02/08/20	02/13/20	0y				36.2	0.037					
08/03/19	09/19/19	0y	#2 PUMP DISCHARGE	442 / 228	29.2	35.1	0.114	0.113	745 / 396	833 / 445	927 / 497	0.00
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00





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
08/13/20	5	0	0	0	2	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	48	0	9	5
03/15/20	9	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	0	7	4
03/05/20	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	0	8	5
02/08/20	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	118	0	15	17
08/03/19	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	32	0	6	3
Baseline Data			0	0						0			0	0					0				0	

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



Historical Comments

03/15/20	The oil is near the end of its useful service life, recommend schedule an oil change. Resample at the next service interval to monitor. Lubritest recommends using HTTFL sample kits for heat transfer fluids. Please contact us at 1-800-268-2131 and provide a purchase order for \$245 + HST in order to conduct additional testing (boiling points @ 10%, 50%, and 90%, percent boiling < 335°C, and solids) to determine the suitability for continued use. Please contact your representative for information regarding the proper sampling kits for your service. All component wear rates are normal. There is no indication of any contamination in the component (unconfirmed). Calcium ppm levels are abnormally high. The AN level is acceptable for this fluid.
03/05/20	Lubritest recommends using HTTFL sample kits for heat transfer fluids. Please contact us at 1-800-268-2131 and provide a purchase order for \$245 + HST in order to conduct additional testing (boiling points @ 10%, 50%, and 90%, percent boiling < 335°C, and solids) to determine the suitability for continued use. Please contact your representative for information regarding the proper sampling kits for your service. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. Calcium ppm levels are abnormally high. The AN level is acceptable for this fluid.
02/08/20	Lubritest recommends using HTTFL sample kits for heat transfer fluids. Please contact us at 1-800-268-2131 and provide a purchase order for \$245 + HST in order to conduct additional testing (boiling points @ 10%, 50%, and 90%, percent boiling < 335°C, and solids) to determine the suitability for continued use. Please contact your representative for information regarding the proper sampling kits for your service. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. Calcium ppm levels are abnormally high. The AN level is acceptable for this fluid.
08/03/19	Les fractions lourdes (GCD @90%) sont très élevés, le calcium ainsi que le soufre sont élevés. Les fractions lourdes augmentent la viscosité et favorisent les dépôts de carbone. Investiguer, s'il n'y a pas un léger mélange avec une autre huile. (GCD) 90% Distillation Point is abnormally high. Calcium ppm levels are abnormally high.