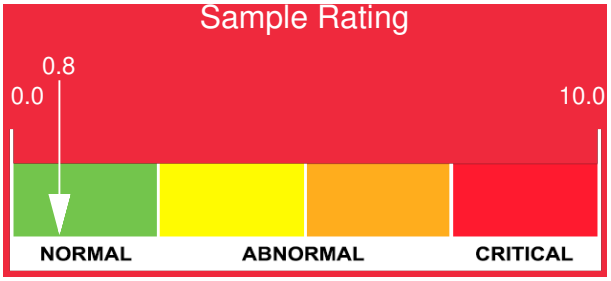
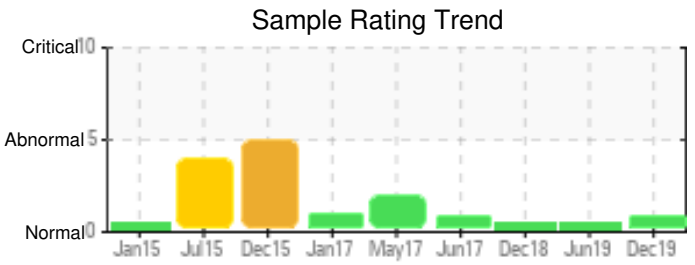
PETRO-CANADA LUBRICANTS





#3 COOKER (I-854-R-0123)

Customer: PTRHTF10156

INGREDION
1515 SOUTH DROVER ST
INDIANAPOLIS, IN 46221 USA
Attn: Randy Ward
Tel: (317)656-2247
E-Mail: Randy.Ward@ingredion.com

System Information

System Volume: 200 gal
Bulk Operating Temp: 400F / 204C
Heating Source:
Blanket:
Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID
Make: HEAT EXCHANGER/TRAN

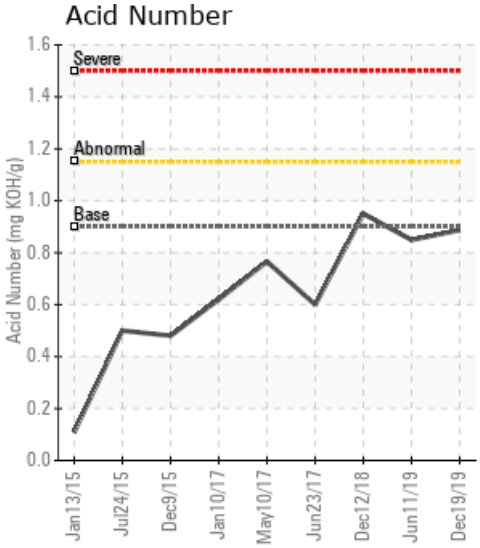
Sample Information

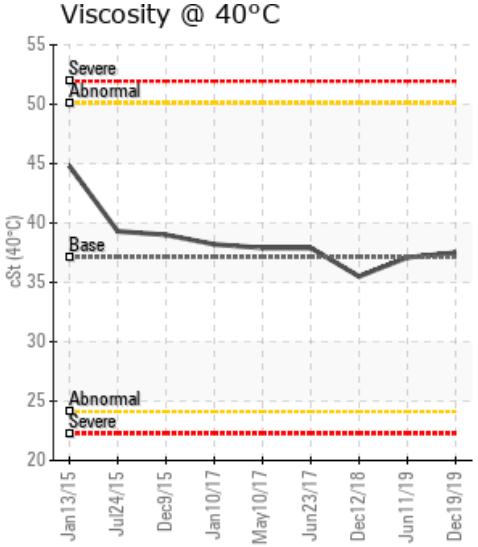
Lab No: 02333351
Analyst: Yvette Trzcinski
Sample Date: 12/19/19
Received Date: 01/22/20
Completed: 01/30/20
Yvette Trzcinski
yvette.trzcinski@petrocanadalsp.com

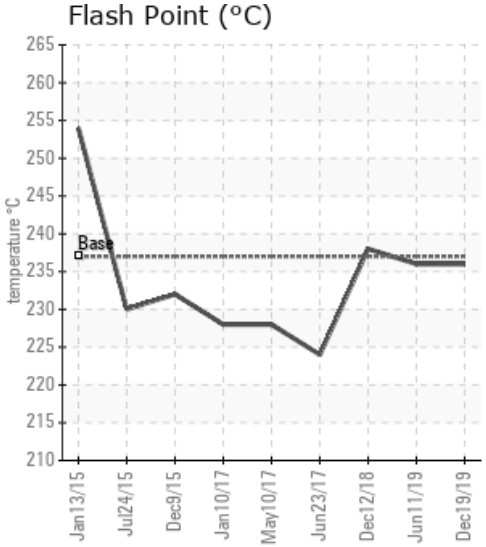
Recommendation: Heat Transfer Fluid is acceptable for continued use - re sample in 6 months

Comments: (GCD) 10% Distillation Point is marginally high.

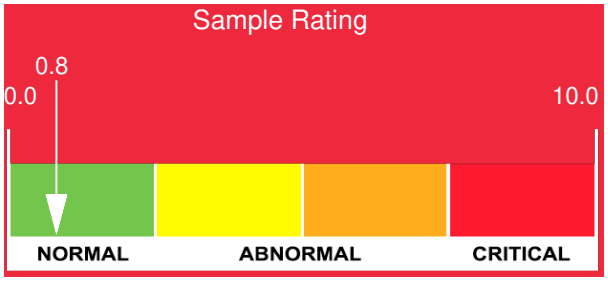
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/19/19	01/22/20	0m		457 / 236	53.9	37.5	0.887	0.054	748 / 398	808 / 431	895 / 480	0.00
06/11/19	06/28/19	0m	SAMPLE PORT	457 / 236	120.1	37.1	0.849	0.016	725 / 385	811 / 433	909 / 487	0.00
12/12/18	06/20/19	0m	SAMPLE PORT	460 / 238	35.7	35.5	0.950	0.046	708 / 376	803 / 428	908 / 487	0.46
06/23/17	02/13/18	6m		435 / 224	13.4	37.9	0.60	0.014	747 / 397	825 / 440	924 / 496	0.00
05/10/17	05/16/17	6m	DRAIN PORT	442 / 228	12.9	37.9	0.766	0.033	732 / 389	831 / 444	965 / 518	0.28
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5

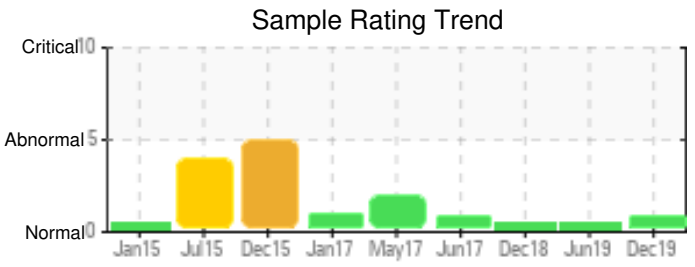






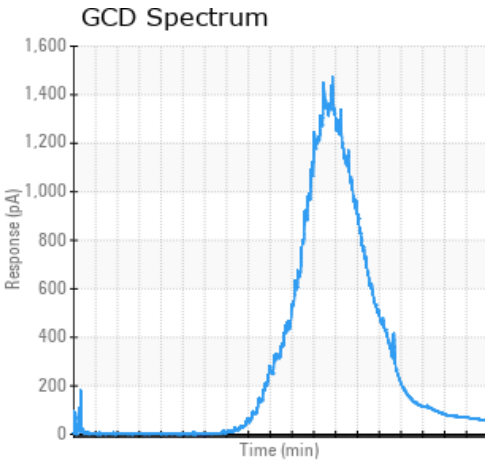
PETRO-CANADA LUBRICANTS

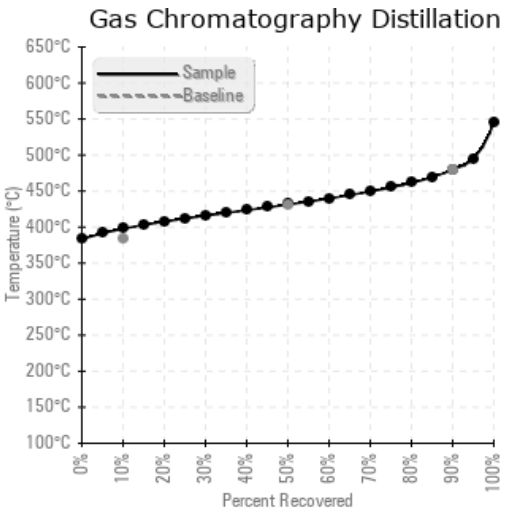


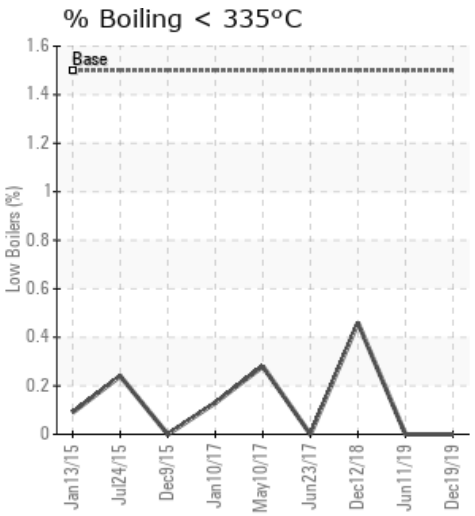


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
12/19/19	7	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	197	2
06/11/19	15	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	191	3
12/12/18	21	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	204	4
06/23/17	2	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	176	0
05/10/17	0	0	0	0	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	188	0
Baseline Data			0	0						0			0	0					0				230	

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







Historical Comments

06/11/19	all parameters within specification re sample in 12 months
12/12/18	sample is dated December 12 2018 - some thermal degradation is occurring seeing slight decrease in viscosity and and AN increasing - resample in 6 months
06/23/17	very little insolubes and the viscosity and acid number suggest the fluid is acceptable for continued use. This sample is dated June 2017 I recommend sending in new samples.
05/10/17	There appears to be slight addition to the system viscosity closer to the Purity FG HTF. Sediment is low and flash point remaining constant. Resample in 3-6 months.