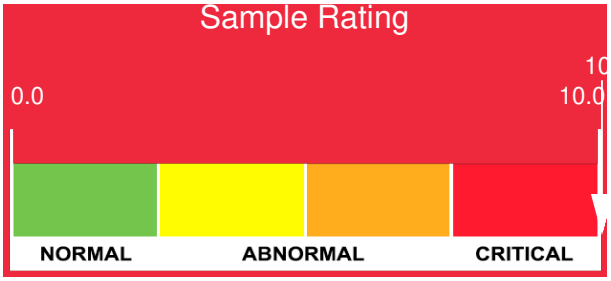
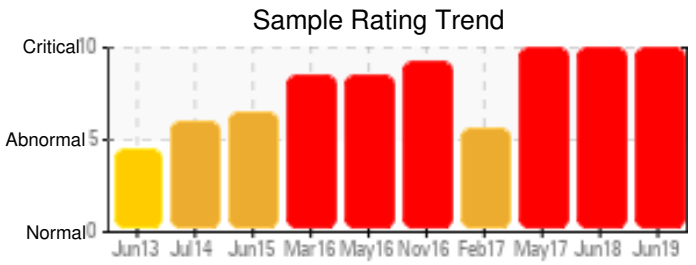
PETRO-CANADA LUBRICANTS





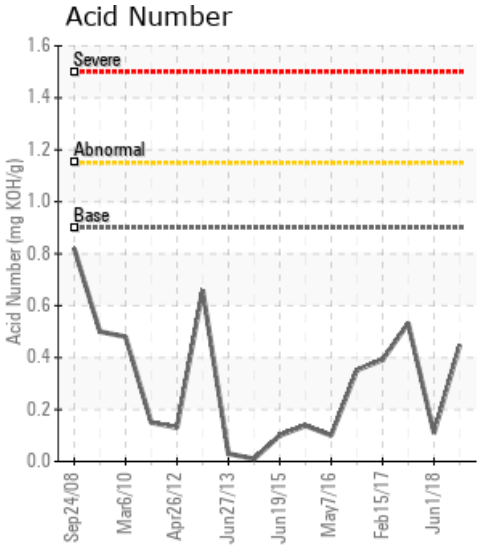
WANSON TPC 1250 LN HP

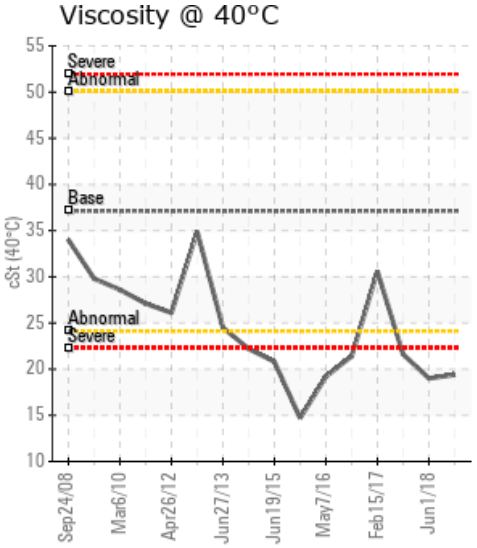
Customer: PTRHTF40049	System Information	Sample Information
PLUSFOOD BV HOUTWAL 30 OOSTERWOLDE 8431EX OOSTERWOLDE, 8431EX Netherlands Attn: WILBERT SNIJERS Tel: E-Mail: w.snijers@klt.nl	System Volume: 5000 ltr Bulk Operating Temp: 212F / 100C Heating Source: Blanket: Fluid: PETRO CANADA PURITY FG HEAT TRANSFER FLUID Make: WANSON	Lab No: 02294632 Analyst: Philip Riley Sample Date: 06/21/19 Received Date: 07/02/19 Completed: 07/18/19

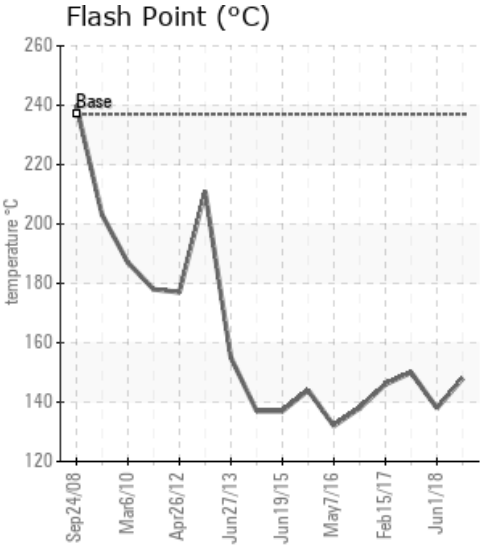
Recommendation: Several parameters off specification with clear evidence of fluid degradation as well as low flash point, viscosity etc. Recommend a fluid change, including a flush of the system

Comments: Pentane Insolubles levels are severely high. (GCD) % < 335°C is severely high. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. Visc @ 40°C is severely low. (GCD) 50% Distillation Point is abnormally low. (GCD) 90% 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	%
06/21/19	07/02/19	11y		298 / 148	43.9	19.4	0.448	0.598	490 / 255	730 / 388	866 / 463	30.64
06/01/18	06/08/18	10y		280 / 138	19.0	19.0	0.11	0.428	459 / 237	647 / 342	823 / 439	46.56
05/09/17	05/12/17	9y		302 / 150	88.4	21.6	0.532	0.441	563 / 295	776 / 413	955 / 513	17.49
02/15/17	02/22/17	9y		295 / 146	4.4	30.6	0.391	0.081	562 / 295	784 / 418	902 / 484	16.38
11/07/16	11/21/16	9y		280 / 138	19.4	21.4	0.352	0.198	563 / 295	783 / 417	916 / 491	16.71
05/07/16	07/11/16	8y		270 / 132	23.3	19.2	0.10	0.163	547 / 286	770 / 410	903 / 484	19.05
Baseline Data				459 / 237		37.12	0.90		721 / 383	807 / 431	892 / 478	1.5







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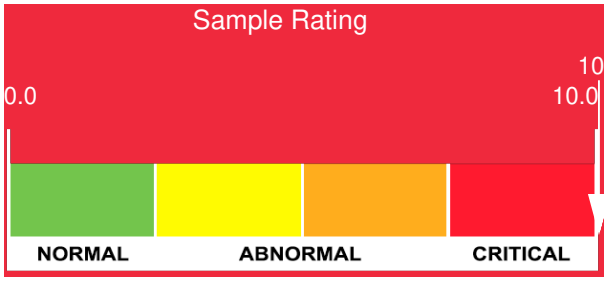
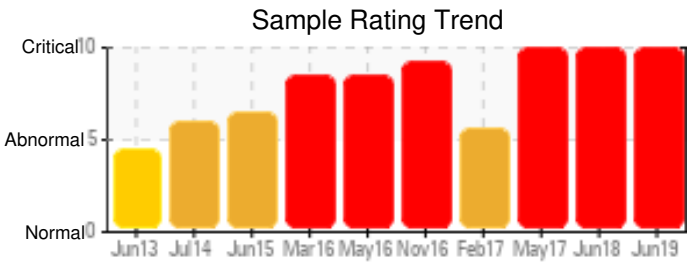
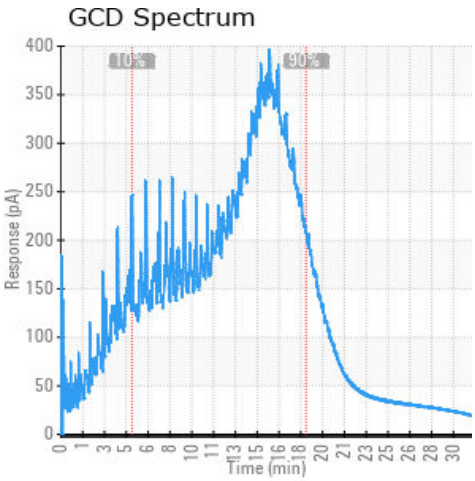
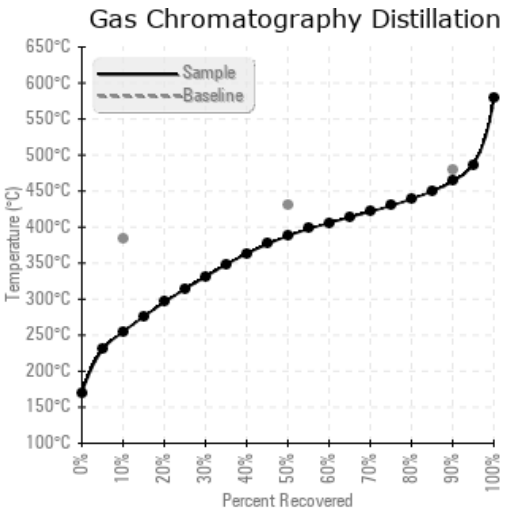


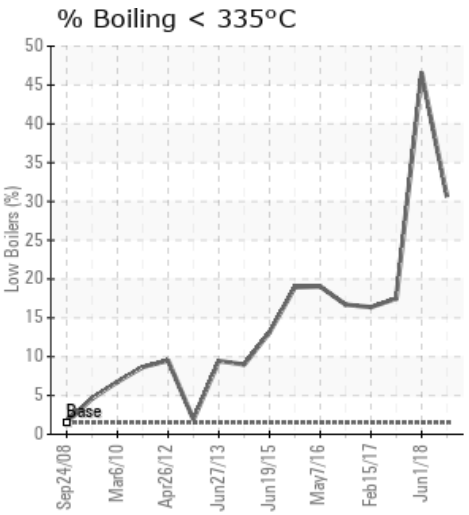


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
06/21/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	0
06/01/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43	0
05/09/17	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	60	0
02/15/17	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	64	0
11/07/16	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	0
05/07/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	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

06/01/18	Out of spec in numerous parameters including viscosity, insoluble etc. Most seriously the COC Flash Point is severely low and recommend an immediate change, flush of the system to rid the circuit of any carryover product and refill with fresh oil Pentane Insolubles levels are abnormally high. (GCD) % < 335°C is severely high. (GCD) 10% Distillation Point is severely low. (GCD) 50% Distillation Point is severely low. (GCD) 90% Distillation Point is severely low. COC Flash Point is severely low. Visc @ 40°C is severely low.
05/09/17	Oil is not in good condition suggest changing the oil at the next available interval. Pentane Insolubles levels are abnormally high. (GCD) % < 335°C is severely high. (GCD) 90% Distillation Point is severely high. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. Visc @ 40°C is severely low.
02/15/17	Oil appears to be in reasonable condition and fit for further service at this time. However consideration should now be given as to whether to change the oil within the next maintenance interval. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. (GCD) % < 335°C is abnormally high.
11/07/16	Recommend an oil change. (GCD) % < 335°C is severely high. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. Visc @ 40°C is severely low. (GCD) 90% Distillation Point is marginally high.
05/07/16	Oil contains low boilers. Consider Oil change. (GCD) % < 335°C is severely high. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. Visc @ 40°C is severely low.

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