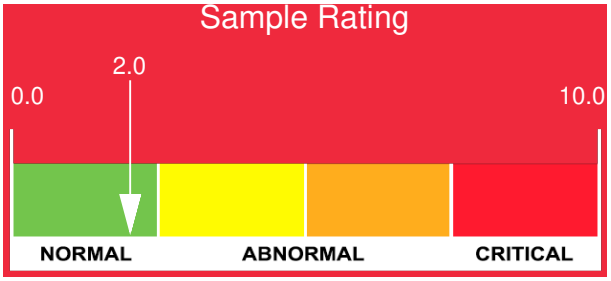
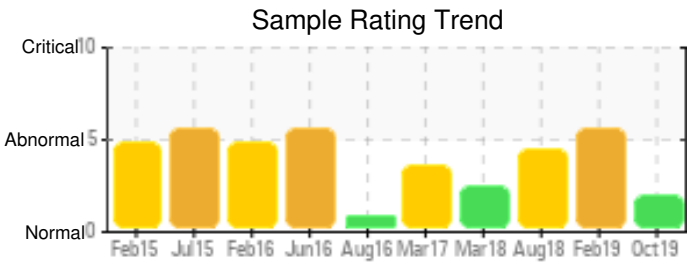
PETRO-CANADA LUBRICANTS





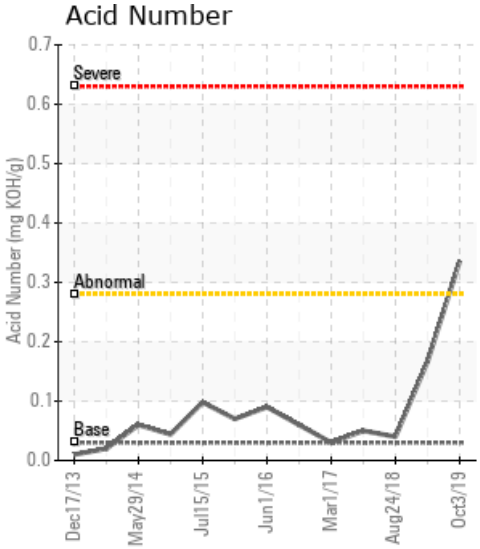
LN02 Filler Mixer Hot Oil System

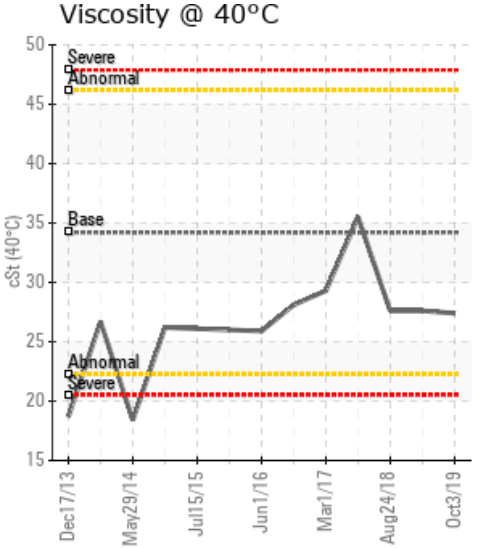
Customer: PTRHTF10141	System Information	Sample Information
TAMKO BUILDING PRODUCTS 2300 35TH ST TUSCALOOSA, AL 35401 USA Attn: Greg Colburn Tel: (205)752-3555 E-Mail: gregory_colburn@tamko.com	System Volume: 650 gal Bulk Operating Temp: 530F / 277C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: HEATEC Inc.	Lab No: 02314441 Analyst: Jake Finn Sample Date: 10/03/19 Received Date: 10/15/19 Completed: 11/08/19

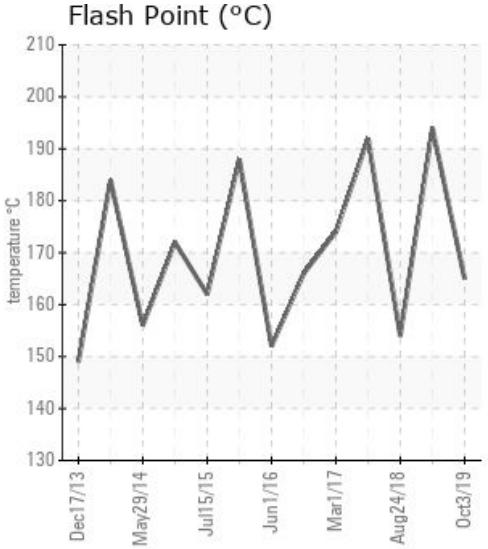
Recommendation: Oil is suitable for continued use. Please resubmit sample in one year.

Comments: Acid Number (AN) is abnormally high. COC Flash Point is abnormally low.

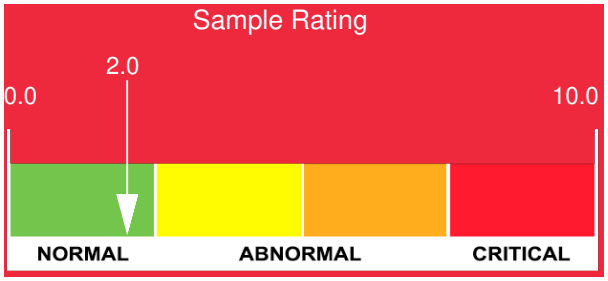
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
10/03/19	10/15/19	0m		329 / 165	30.8	27.4	0.336	0.082	692 / 367	808 / 431	911 / 488	4.03
02/25/19	03/06/19	18m	PORT	381 / 194	595.6	27.6	0.167	0.096	625 / 330	780 / 416	894 / 479	10.49
08/24/18	09/04/18	18m	PORT	309 / 154	13.1	27.6	0.04	0.021	642 / 339	786 / 419	900 / 482	8.82
03/02/18	03/13/18	12m		378 / 192	8.4	35.5	0.05	0.080	657 / 347	776 / 414	875 / 469	6.07
03/01/17	03/07/17	13m	PORT	345 / 174	18.6	29.3	0.03	0.047	654 / 346	795 / 424	913 / 490	7.50
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00

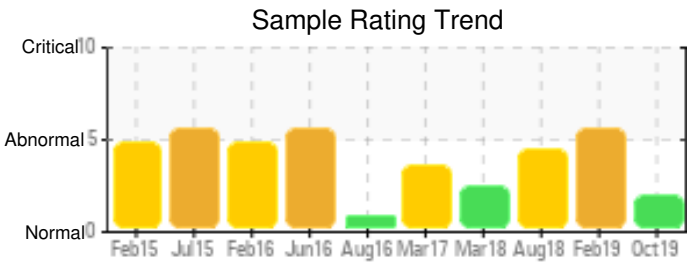






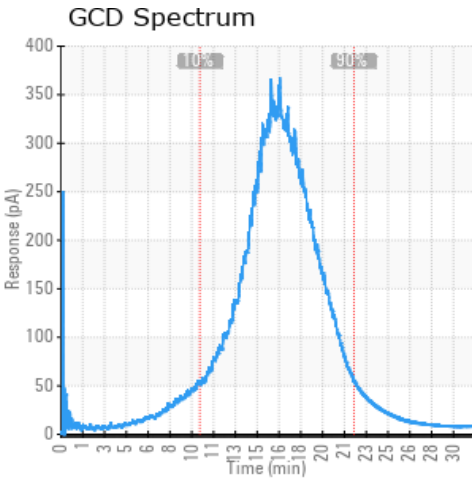
PETRO-CANADA LUBRICANTS

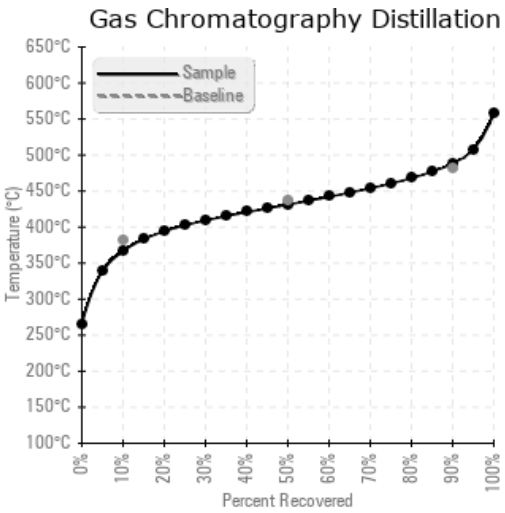


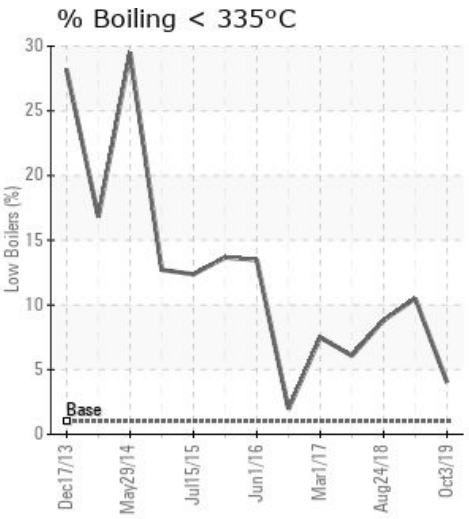


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
10/03/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	1
02/25/19	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	49	3
08/24/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0
03/02/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	0
03/01/17	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0
Baseline Data			0	0						0			0	0					0				0	

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







Historical Comments

02/25/19	Venting the system will mitigate the 10% distillation curve values and may improve the Flash point. Please maintain bulk fluid temperature at the 530°F design parameters to flash off any moisture. Changing any system filters or kidney-loop filtering the fluid during any shutdown periods will remove any 'light debris' as seen by the lab. If any adjustments or modifications to the system are performed, please re-submit sample for verification.(GCD) 10% Distillation Point is severely low. (GCD) % < 335°C is marginally high. Water contamination levels are marginally high. ppm Water contamination levels are marginally high.
08/24/18	'Venting' the system is recommended to align the 10% distillation point and 'potentially' the flash point. In June 2006, similar results for this system were documented and maintenance mitigated, re-submitted sample 3-months later & the parameters were all in-line. Please maintain system and re-submit sample for confirmation that fluid values are aligned.Flash point has reached a value of 154oC (309oF). Please assure the fluid in this system is below these values or consider changing fluid if the parameters cannot be mitigated. Also, some very lite debris was noticed by the lab technician and this can be mitigated by changing system filters or filtering with kidney loop system during a safe shutdown period to assure fluid cleanliness levels. COC Flash Point is severely low. (GCD) 10% Distillation Point is abnormally low. (GCD) % < 335°C is marginally high.
03/02/18	Sample is suitable for continued use. Please resample in 12 months COC Flash Point is marginally low. (GCD) 10% Distillation Point is marginally low. (GCD) 90% Distillation Point is marginally low. Consider 'venting' the system to improve these values. Sample condition has improved from previous fluid sample submitted a year ago. Very light debris found in fluid. This can be filtered out with a kidney loop filtration system if suitable during system downturn for maintenance. Change any system filters, if any.
03/01/17	Recommendation to 'vent' system may assist the flash point and distillation points <335oC. Send sample into the lab after any mitigation/maintenance is performed to check for improved values. Safely filtering the oil during any shutdowns and/or changing any system filters may reduce the visible debrisWear metals are low/Contaminant levels are low/Water is nil/COC Flash Point is abnormally low. (GCD) % < 335°C is marginally high. (GCD) 10% Distillation Point is marginally low/Viscosity is in check/Pentane insoluble are satisfactory/Very light debris in sample