

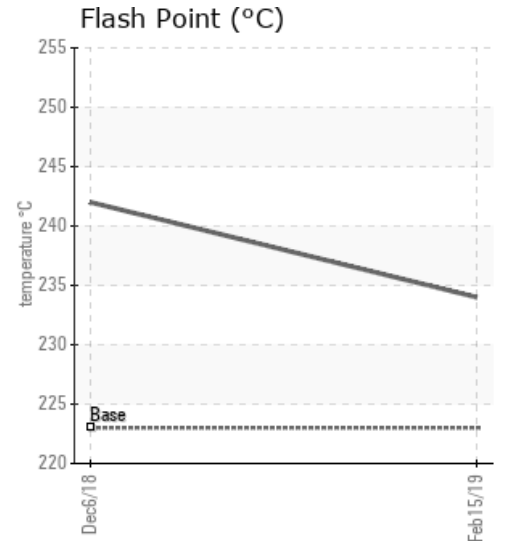
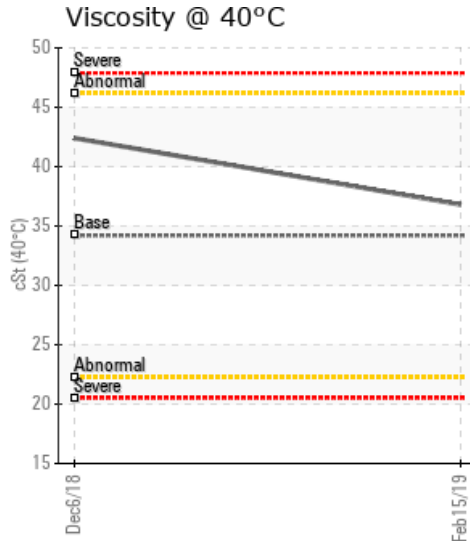
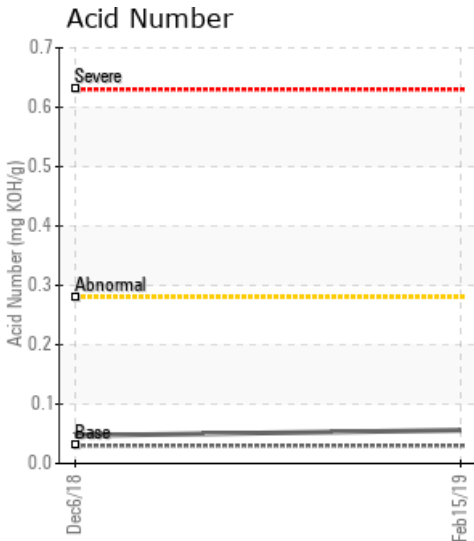
[UPONOR APPLE VALLEY] PEX134-370378

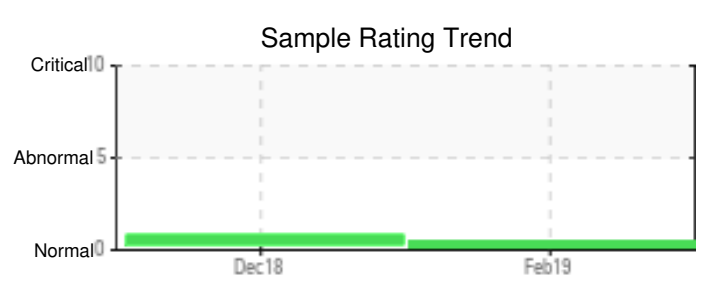
Customer: PTRHTF10210	System Information	Sample Information
UPONOR 14800 EVEREST AVE APPLE VALLEY, MN 55124 USA Attn: Betsy Schultz Tel: (651)900-6778 E-Mail: betsy.schultz@uponor.com	System Volume: 8 gal Bulk Operating Temp: 500F / 260C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: REGLOPLAS	Lab No: 02270306 Analyst: Neil Buchanan Sample Date: 02/15/19 Received Date: 02/27/19 Completed: 03/04/19

Recommendation: Oil sample looks good and is fit for further use. Resample next regular interval.

Comments:

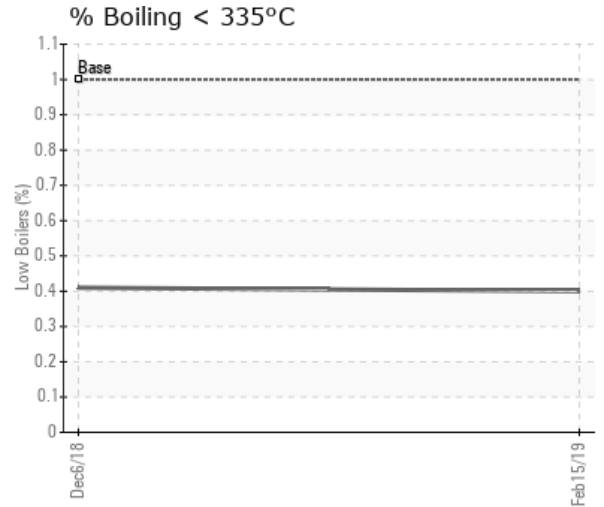
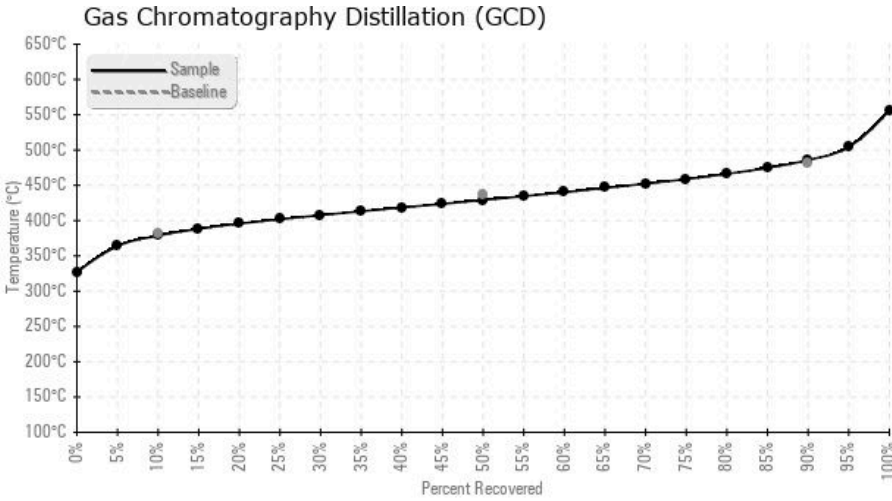
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/15/19	02/27/19	2w	DRAIN	453 / 234	9.6	36.8	0.056	0.032	713 / 379	804 / 429	906 / 486	0.40
12/06/18	01/02/19	1w		468 / 242	4.7	42.4	0.047	0.020	705 / 374	800 / 427	892 / 478	0.41
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
02/15/19	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
12/06/18	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
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	
12/06/18	Fluid is in good shape and fit for further service. Resample next interval. (GCD) 90% Distillation Point is abnormally low.

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