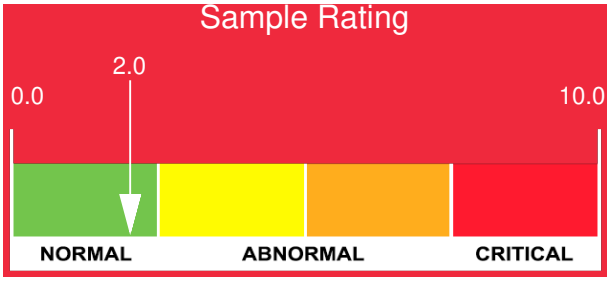
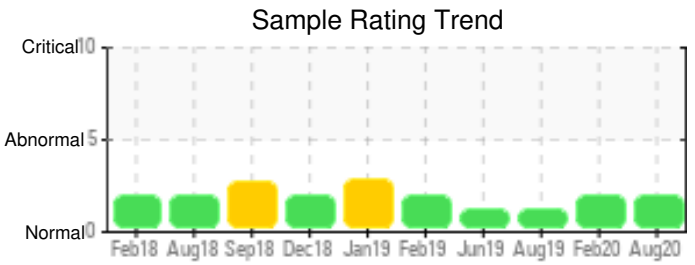




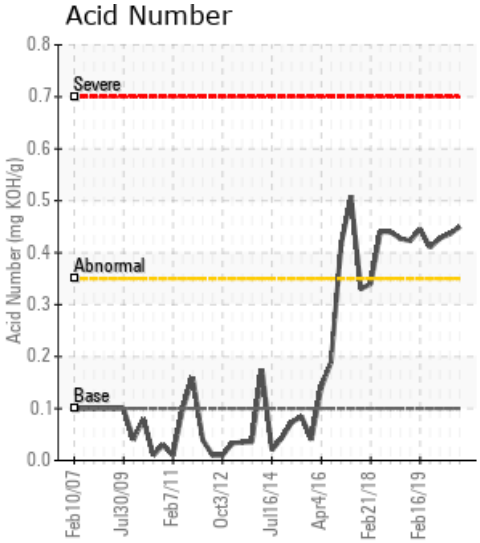
FREMONT RPG

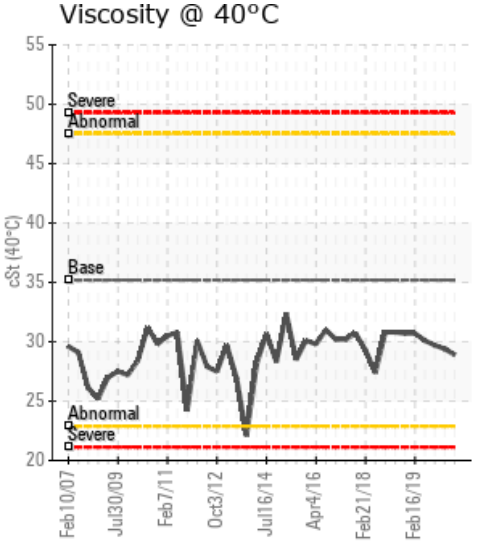
Customer: PTRHTF10036	System Information	Sample Information
CERTAINTEED - SAINT GOBAIN 6400 STEVENSON BLVD FREMONT, CA 94538-2468 USA Attn: Dan Arata Tel: (510)490-0890 E-Mail: dan.d.arata@saint-gobain.com	System Volume: 5000 gal Bulk Operating Temp: 450F / 232C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make: FIRST THERMAL	Lab No: 02374014 Analyst: Gaston Arseneault Sample Date: 08/21/20 Received Date: 09/03/20 Completed: 09/08/20 Gaston Arseneault gaston.arseneault@petrocanadalsp.com

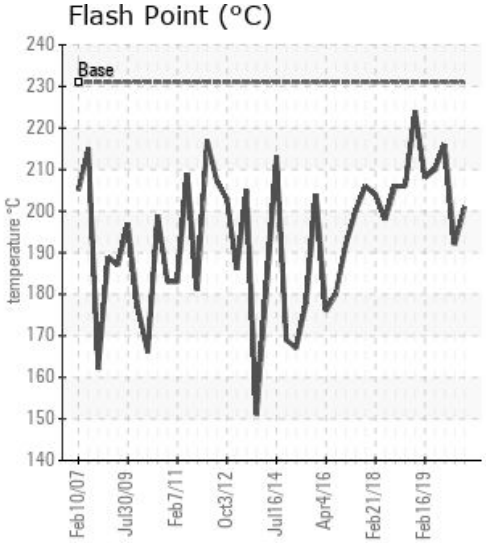
Recommendation: While a bit high, the acid number (oxidation) level of the oil has remained stable. The small amount of low boilers can be vented out but the flash point is still strong at ~395F. No actions needed at this time. Keep sampling regularly

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

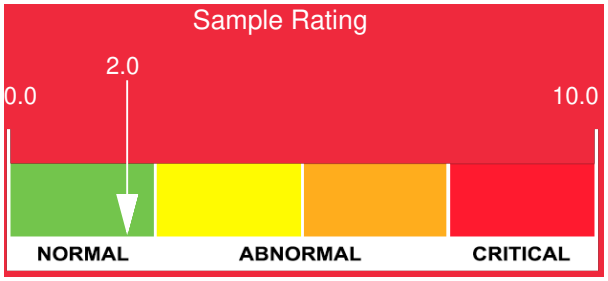
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/21/20	09/03/20	0y	MAIN LOOP VALVE	394 / 201	21.0	28.9	0.45	0.054	681 / 361	785 / 418	904 / 485	4.47
02/20/20	03/05/20	6y	MAIN LOOP VALVE	378 / 192	10.6	29.4	0.436	0.141	695 / 368	814 / 434	926 / 497	3.13
08/27/19	09/10/19	6y	MAIN LOOP VALVE	421 / 216	25.8	29.7	0.428	0.087	687 / 364	790 / 421	895 / 480	3.26
06/12/19	06/26/19	7y		410 / 210	13.6	30.1	0.410	0.110	698 / 370	794 / 423	903 / 484	1.14
02/16/19	02/28/19	6y	VALVE ON MAIN LOOP	406 / 208	7.6	30.7	0.445	0.035	674 / 356	779 / 415	890 / 477	4.33
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75

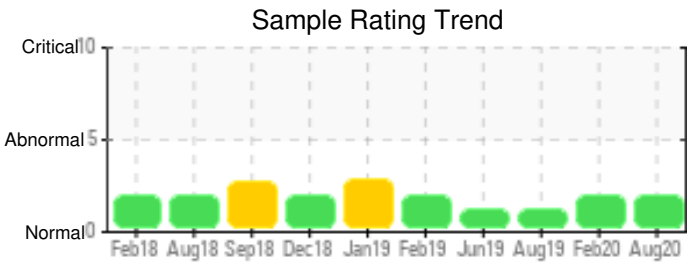






PETRO-CANADA LUBRICANTS

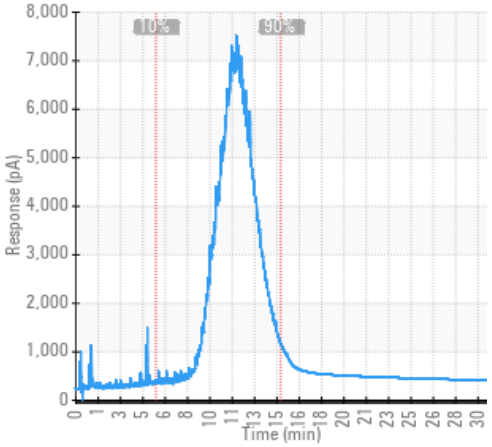




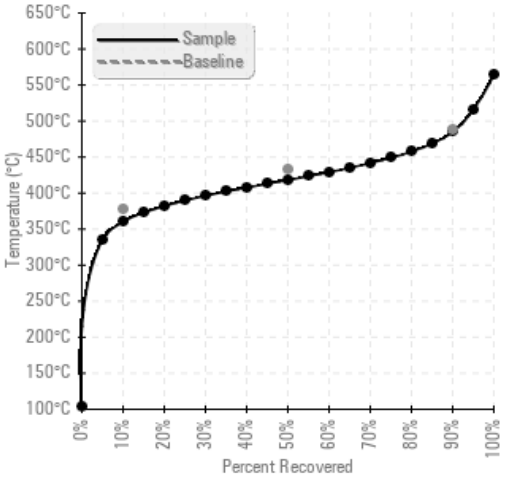
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
08/21/20	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	71	0
02/20/20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	0
08/27/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	0
06/12/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	0
02/16/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	0
Baseline Data			0	0						0			0	0				0	0				280	

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

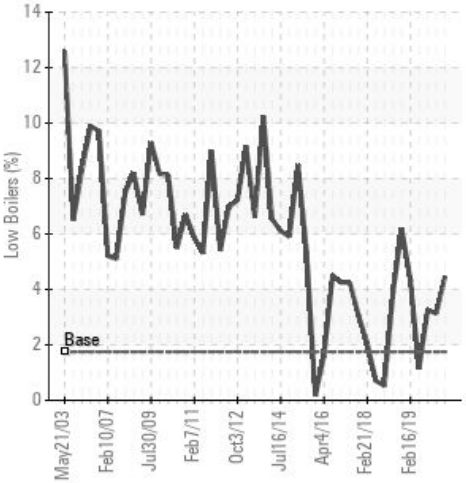
GCD Spectrum



Gas Chromatography Distillation



% Boiling < 335°C



Historical Comments

02/20/20	No changes since the last sample. No venting necessary at this time. The Acid Number is what we need to watch and it's stable. No evidence of contamination by asphalt, water or other substances. Resample at next scheduled interval. Acid Number (AN) is abnormally high. COC Flash Point is marginally low.
08/27/19	No changes since the last sample. As discussed no conference calls, venting is not necessary. The Acid Number is what we need to watch and it's stable. No evidence of contamination by asphalt, water or other substances. Re-sample at next scheduled interval. Acid Number (AN) is abnormally high.
06/12/19	The acid number is high. Otherwise the oil is in good condition. Recommend verifying nitrogen blanket is working properly and partial fluid replacement to reduce acid number. Acid Number (AN) is abnormally high.
02/16/19	The Acid Number has been relatively stable over the last 6 months but shows oxidation has occurred. The oil won't degrade rapidly but it's better to adopt a proactive approach. If left to degrade until it fouls the system, it will force a full system cleaning and flushing. If you have a shut-down in the coming months, we would advise to consider replacing a portion (example 30 - 50%) of the fluid with fresh Calflo to maintain healthy oil. Acid Number (AN) is abnormally high. (GCD) 90% Distillation Point is marginally low.

