

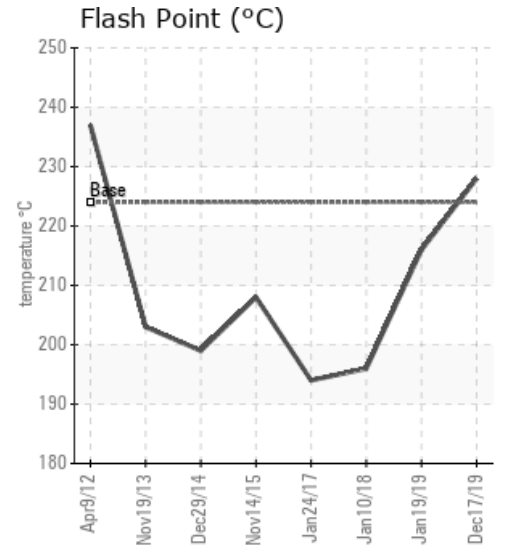
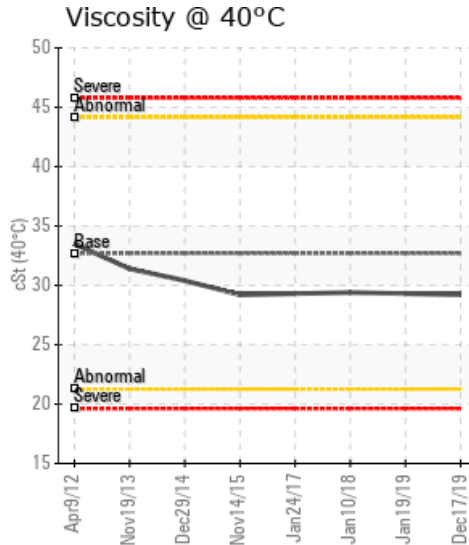
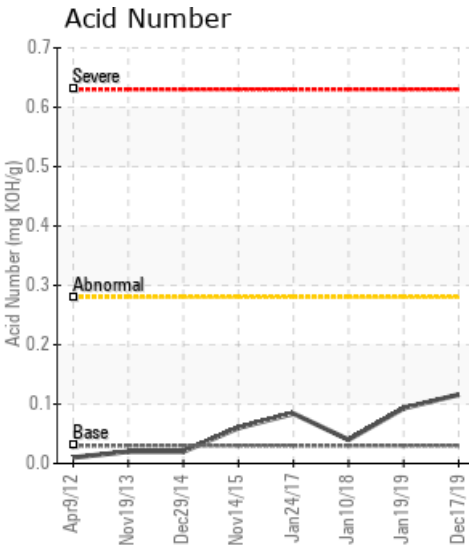
## ENNIS HOT OIL SYSTEM

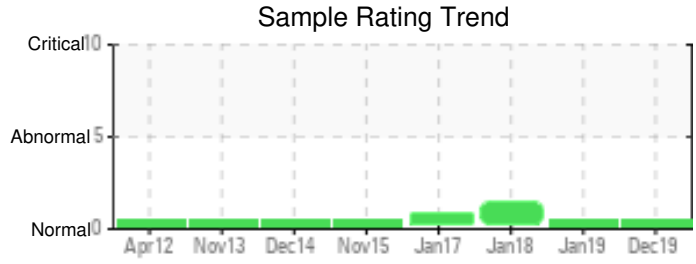
Customer: PTRHTF10112	System Information	Sample Information
CERTAINTEED - SAINT GOBAIN 2901 N KAUFMAN ST ENNIS, TX 75119 USA Attn: David Sundstrom Tel: (469)387-6752 E-Mail: david.sundstrom@saint-gobain.com	System Volume: 2000 gal Bulk Operating Temp: 525F / 274C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make:	Lab No: 02329280 Analyst: Gaston Arseneault Sample Date: 12/17/19 Received Date: 12/30/19 Completed: 01/03/20

Recommendation: Nothing changed since the last sample. The oil condition looks acceptable and no action appears to be needed at this time. Viscosity is normal, flash point is high, other properties are normal. Re-sample at next scheduled interval.

Comments:

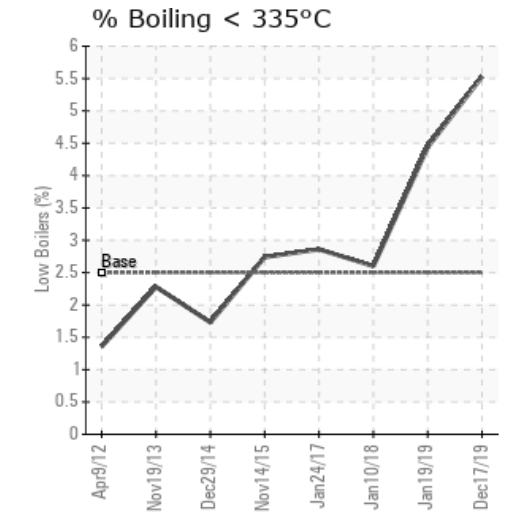
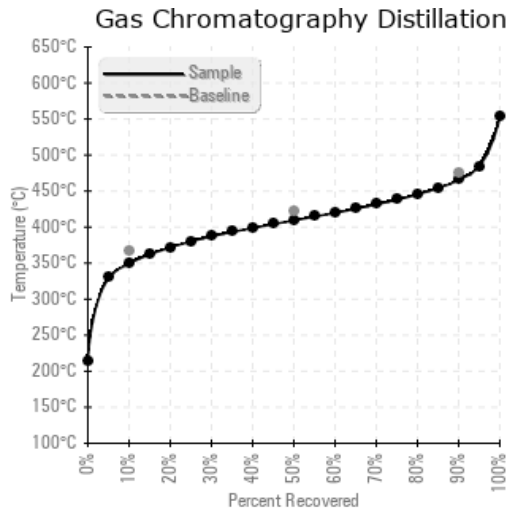
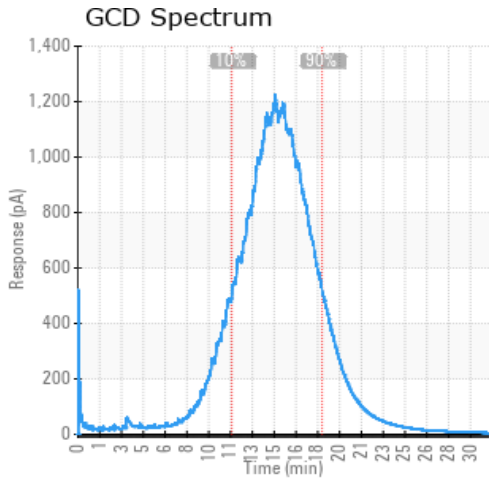
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/17/19	12/30/19	9y	MAIN PUMP	442 / 228	12.5	29.2	0.116	0.117	661 / 349	769 / 409	870 / 465	5.53
01/19/19	02/04/19	8y	MAIN PUMPS	421 / 216	22.1	29.3	0.093	0.015	668 / 354	775 / 413	879 / 470	4.44
01/10/18	03/22/18	84y		385 / 196	2.8	29.4	0.04	0.093	682 / 361	784 / 418	894 / 479	2.60
01/24/17	02/13/17	66y	MAIN LOOP PUMP	381 / 194	17.8	29.3	0.084	0.085	689 / 365	796 / 424	899 / 482	2.86
11/14/15	11/30/15	55y	MAIN LOOP	406 / 208	30.9	29.2	0.06	0.256	690 / 365	795 / 424	894 / 479	2.74
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5





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
12/17/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
01/19/19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0
01/10/18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0
01/24/17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0
11/14/15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
Baseline Data			0	0						0			0	0					0				270	

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



Historical Comments	
01/19/19	The oil condition looks acceptable and no action appears to be needed at this time. Viscosity is normal, flash point is high, other properties are normal. Re-sample at next scheduled interval.
01/10/18	The fluid condition appears normal at this time. No action needed other than re-sample at next scheduled interval.
01/24/17	The fluid is in good condition. viscosity remains normal, no apparent contamination, oxidation is minimal. We recommend to sample at the next scheduled interval.
11/14/15	Fluid is suitable for continued use.

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