

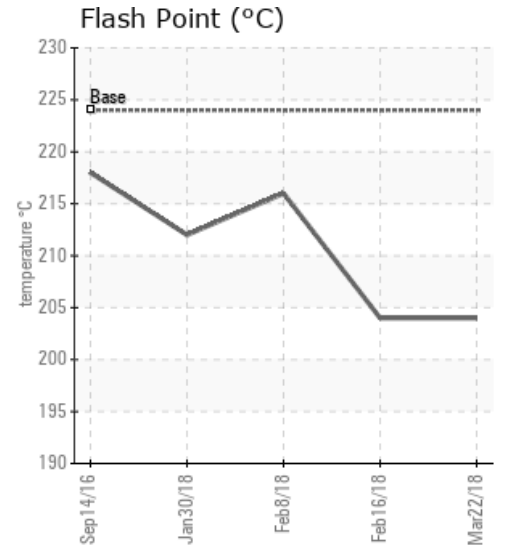
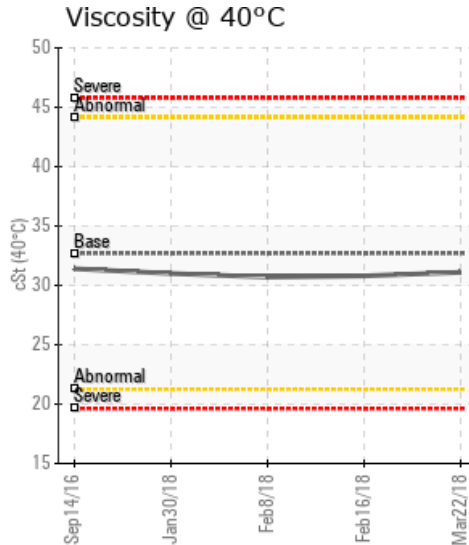
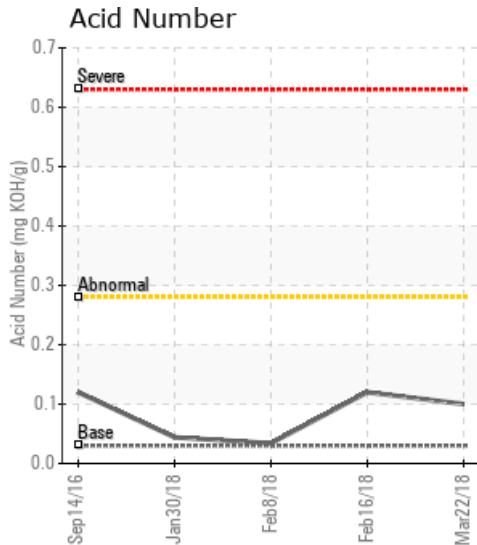
## [HOT OIL SAMPLE STATION] SILANE 4.0 DISTILLATION

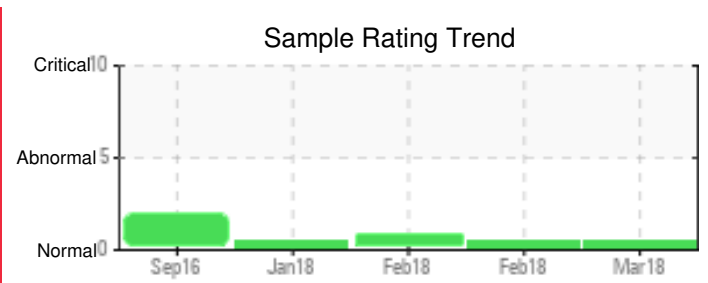
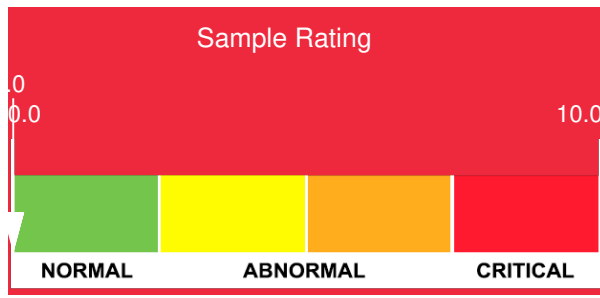
Customer: PTRHTF10093	System Information	Sample Information
REC GROUP 3322 ROAD N N.E. MOSES LAKE, WA 98837 USA Attn: Loren Poulson Tel: E-Mail: loren.poulson@recsilicon.com	System Volume: 50000 gal Bulk Operating Temp: 420F / 216C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: COEN	Lab No: 02207325 Analyst: Ron LeBlanc Sample Date: 03/22/18 Received Date: 03/29/18 Completed: 04/05/18 To discuss this report contact Ron LeBlanc at (541)678-7044

Recommendation: Sample looks normal. Pentane insoluble increased slightly from previous sample.

Comments:

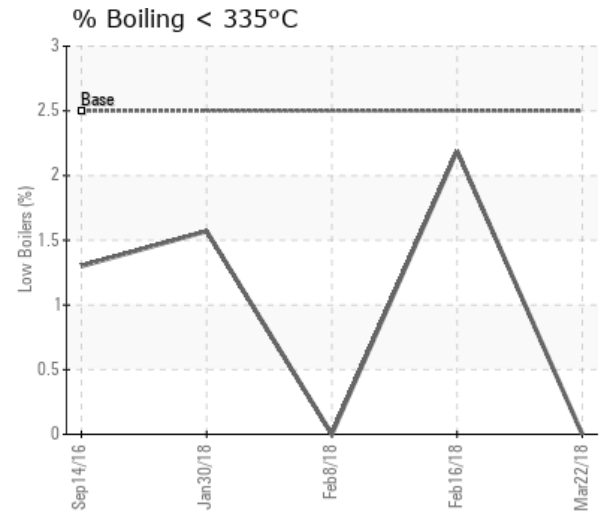
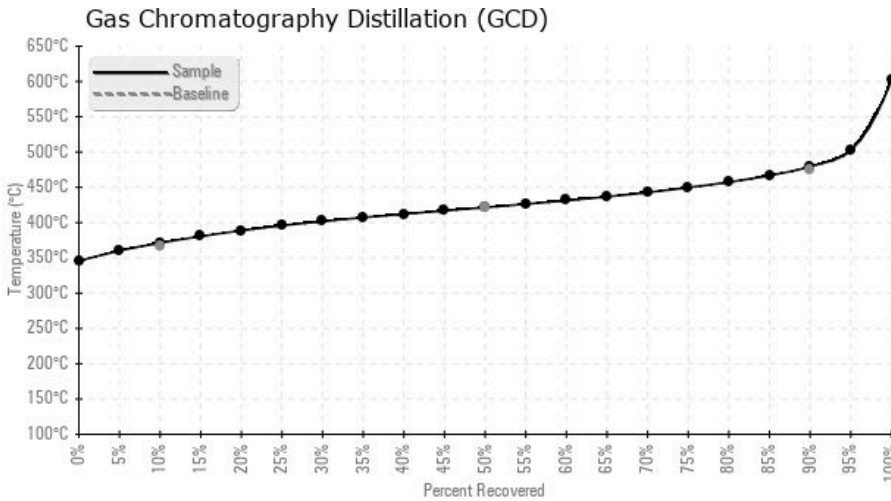
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/22/18	03/29/18	18m		399 / 204	9.5	31.1	0.10	0.069	700 / 371	791 / 422	895 / 479	0.00
02/16/18	02/22/18	17m		399 / 204	8.7	30.8	0.12	0.046	691 / 366	794 / 424	889 / 476	2.19
02/08/18	02/15/18	17m		421 / 216	2.6	30.7	0.034	0.049	728 / 387	800 / 427	888 / 476	0.00
01/30/18	02/07/18	16m		414 / 212	5.3	31.0	0.044	0.074	692 / 367	792 / 422	888 / 476	1.57
09/14/16	09/19/16	58m	HOT OIL SMPL STATION	424 / 218	184.2	31.4	0.12	0.713	694 / 368	795 / 424	898 / 481	1.30
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
03/22/18	60	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	202	0
02/16/18	54	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	200	0
02/08/18	50	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	198	0
01/30/18	66	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	212	0
09/14/16	21	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	260	1
<b>Baseline Data</b>			0	0						0			0	0					0				270	

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



Historical Comments	
02/16/18	Sample appears close to normal. The silicon stayed relatively the same as the last 3 samples. The (GCD) 10% distillation point dropped to normal this sample.
02/08/18	Pentane insoluble have dropped over the last 3 samples. The viscosity has dropped slightly over the last 3 samples as well. The (GCD) 10% distillation point is elevated approximately 20 degrees over last 2 samples. (GCD) 10% Distillation Point is marginally high.
01/30/18	Pentane insoluble dropped significantly in this sample. Debris dropped from moderate to very lite.
09/14/16	Pentane is elevated indicating sediment. Filter cart should be run on oil to clean it up. Pentane Insolubles levels are severely high.

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