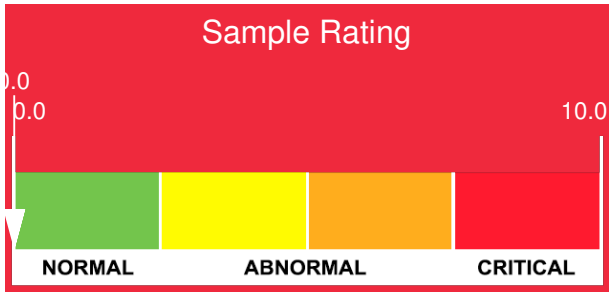
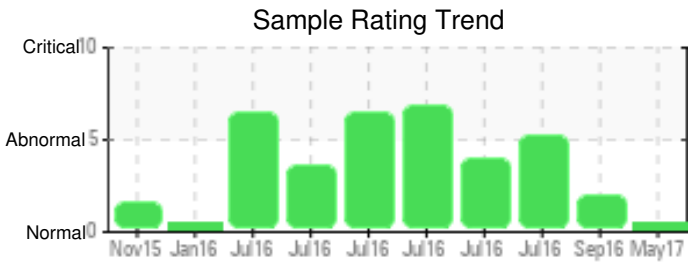




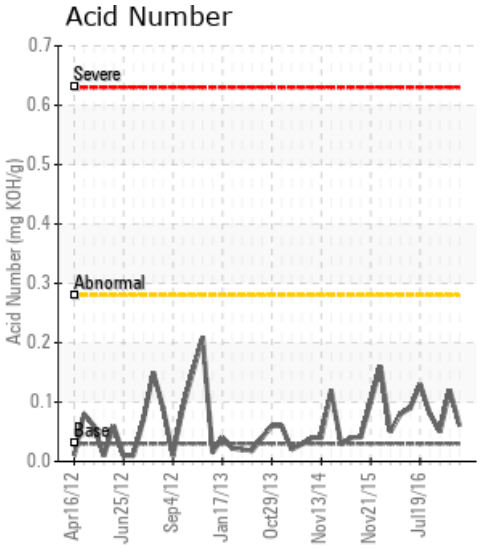
[HOT OIL SAMPLE STATION] SILANE 4.0 DISTILLATION

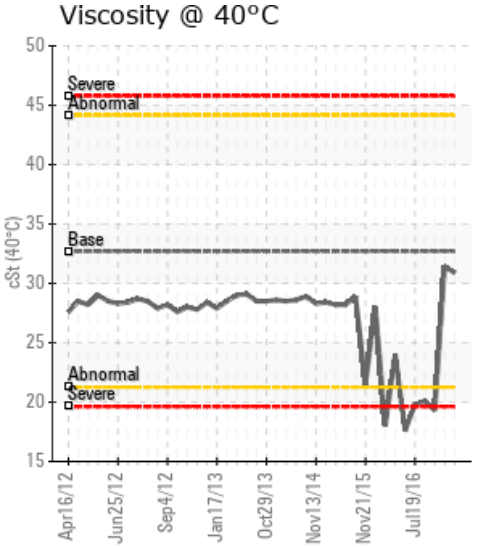
Customer: PTRHTF10093	System Information	Sample Information
REC GROUP 3322 ROAD N N.E. MOSES LAKE, WA 98837 USA Attn: Loren Poulson Tel: E-Mail: loren.poulson@recsilicon.com	System Volume: 50000 gal Bulk Operating Temp: 420F / 216C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: COEN	Lab No: 02149796 Analyst: Ron LeBlanc Sample Date: 05/31/17 Received Date: 06/05/17 Completed: 06/07/17 To discuss this report contact Ron LeBlanc at (541)678-7044

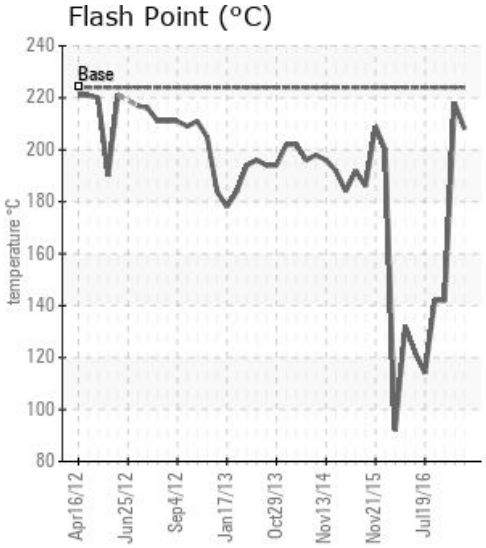
Recommendation: Sample appears normal. Resample in 3 months.

Comments:

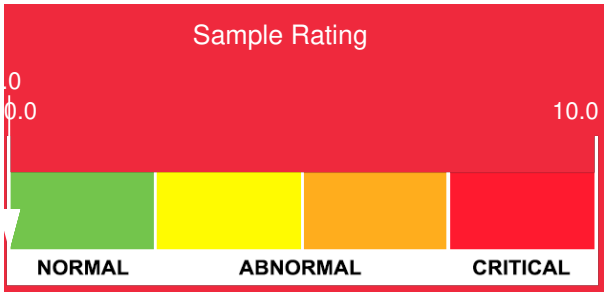
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/31/17	06/05/17	8m	DISTO HOT OIL	406 / 208	17.0	30.9	0.060	0.052	692 / 367	797 / 425	897 / 481	1.60
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
07/28/16	08/02/16	58m	PRV VENT NR TCS VAP	288 / 142	11.3	19.3	0.05	0.051	609 / 321	788 / 420	893 / 479	10.84
07/22/16	07/26/16	58m	H/O DCS REBOILER S	288 / 142	5.8	20.1	0.08	0.068	646 / 341	786 / 419	891 / 477	8.75
07/19/16	07/21/16	58m	PRV VENT NEAR TCS	237 / 114	43.3	19.8	0.13	0.508	552 / 289	777 / 414	878 / 470	13.13
07/15/16	07/21/16	58m	DISTO HOT OIL RESULT	252 / 122	25.4	17.6	0.09	0.190	548 / 287	790 / 421	901 / 483	13.01
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5

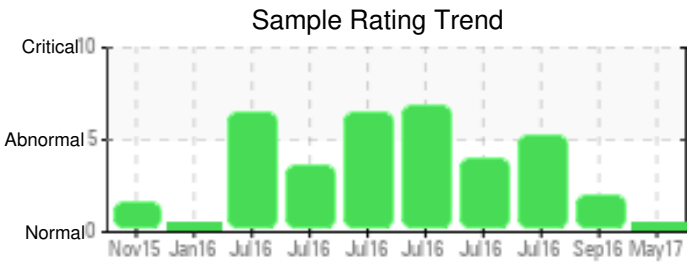






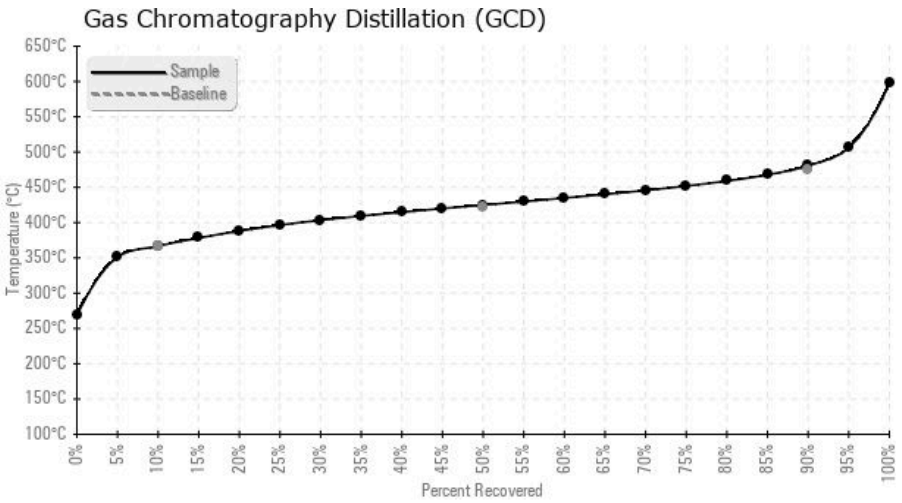
PETRO-CANADA

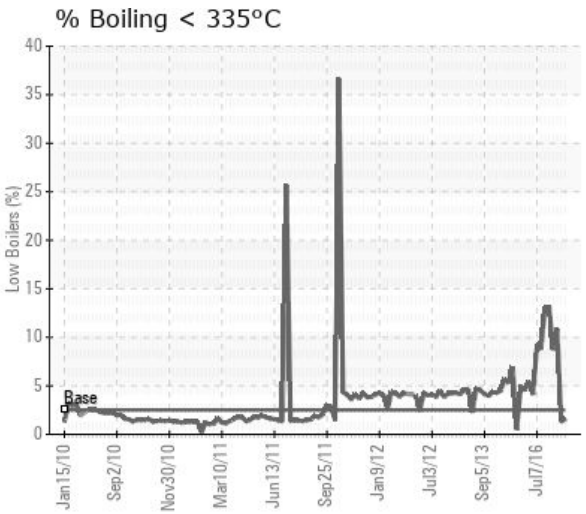




Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
05/31/17	36	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	231	0
09/14/16	21	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	260	1
07/28/16	25	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	42	0
07/22/16	50	0	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	0	0	0	0	0	62	0
07/19/16	79	0	0	0	0	0	0	0	0	0	9	1	0	0	0	0	1	0	0	0	0	0	49	0
07/15/16	55	0	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	29	0
Baseline Data			0	0						0			0	0					0				270	

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





Historical Comments

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.
07/28/16	COC Flash Point is severely low. Visc @ 40°C is severely low. (GCD) 10% Distillation Point is abnormally low. (GCD) % < 335°C is marginally high. COC Flash Point is severely low. Visc @ 40°C is severely low. (GCD) 10% Distillation Point is abnormally low. (GCD) % < 335°C is marginally high.
07/22/16	COC Flash Point is severely low. Visc @ 40°C is abnormally low. (GCD) % < 335°C is marginally high. COC Flash Point is severely low. Visc @ 40°C is abnormally low. (GCD) % < 335°C is marginally high.
07/19/16	(GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. (GCD) % < 335°C is abnormally high. Visc @ 40°C is abnormally low. Compared to the previous sample the viscosity improved slightly, the COC flash point lowered slightly, the (GCD)10% is approximately 55C lower than normal. Pentane appears to be increasing significantly over the last 4 samples. Decision needs to be made if the fluid can continue to be run with the low viscosity and low COC flash point. Pentane Insolubles levels are abnormally high. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. (GCD) % < 335°C is abnormally high. Visc @ 40°C is abnormally low.
07/15/16	(GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. Visc @ 40°C is severely low. (GCD) % < 335°C is abnormally high. Pentane appears to be increasing significantly over the last 3 samples. Decision needs to be made if the fluid can continue to be run with the low viscosity and low COC flash point. (GCD) 10% Distillation Point is severely low. COC Flash Point is severely low. Visc @ 40°C is severely low. (GCD) % < 335°C is abnormally high.