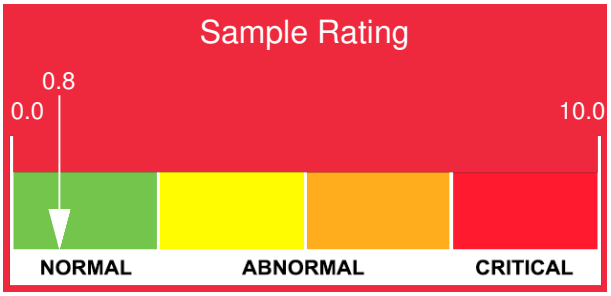
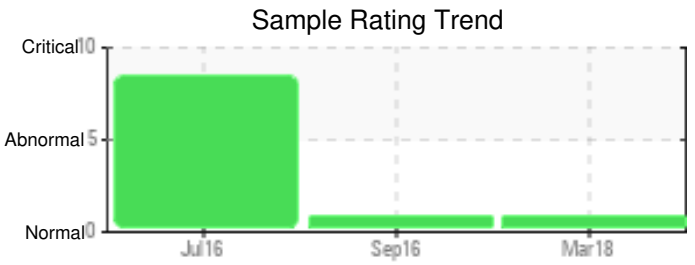




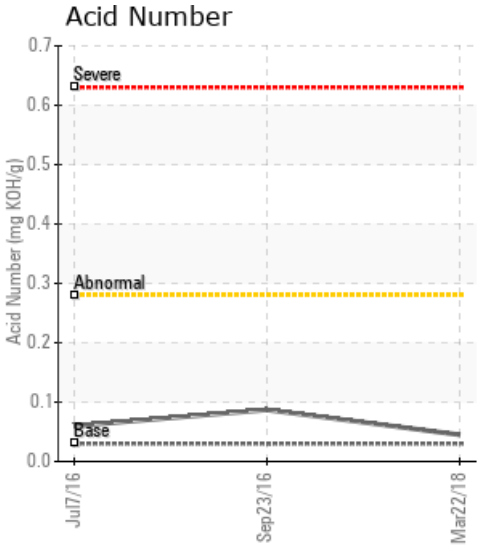
[Disto Oil Loop] SILANE 4.0 DISTILLATION COLUMN SAMPLE

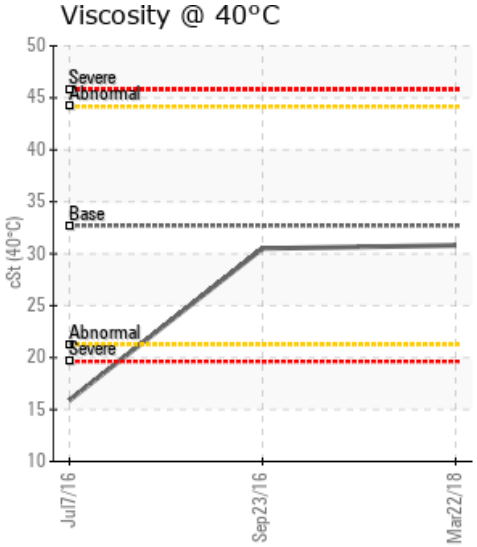
Customer: PTRHTF10093	System Information	Sample Information
REC GROUP 3322 ROAD N N.E. MOSES LAKE, WA 98837 USA Attn: Sam Bright Tel: (509)766-8902 E-Mail: sam.bright@recsilicon.com	System Volume: 50000 gal Bulk Operating Temp: 420F / 216C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO AF Make: COEN	Lab No: 02215919 Analyst: Ron LeBlanc Sample Date: 03/22/18 Received Date: 05/11/18 Completed: 05/22/18 To discuss this report contact Ron LeBlanc at (541)678-7044

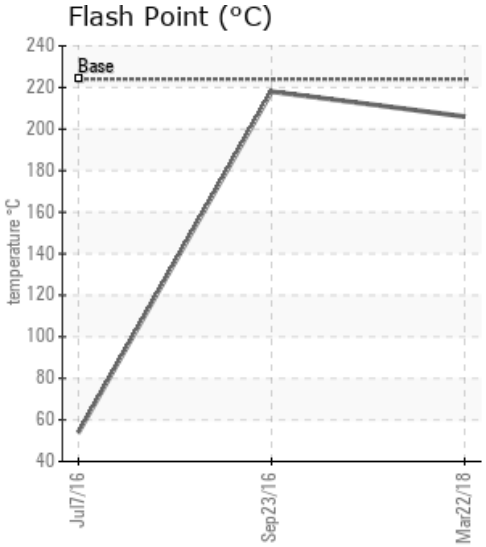
Recommendation: Sample appears normal. (GCD) 90% Distillation Point is up marginally compared to last sample. PPM water has decreased from last sample. Both iron and pentane insoluble have dropped.Resample at normal interval.

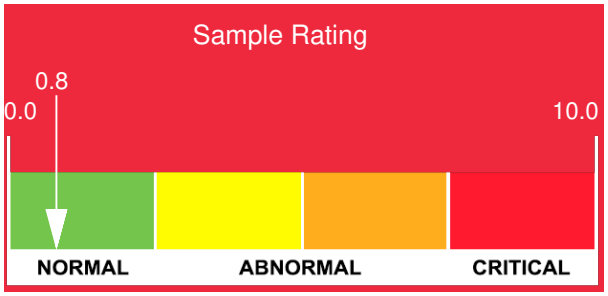
Comments: (GCD) 90% Distillation Point is marginally high.

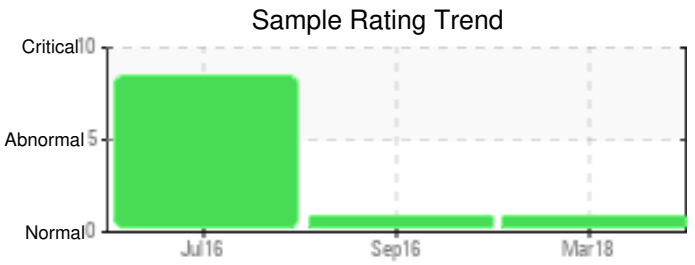
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/22/18	05/11/18	0m		403 / 206	17.3	30.8	0.045	0.072	654 / 346	778 / 415	910 / 488	6.99
09/23/16	09/26/16	2m	COLUMN	424 / 218	19.0	30.5	0.087	0.183	695 / 369	796 / 424	889 / 476	1.29
07/07/16	07/12/16	49m	DISTO DCS	129 / 54	0.00	15.9	0.06	0.085	560 / 294	784 / 418	909 / 487	13.16
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5





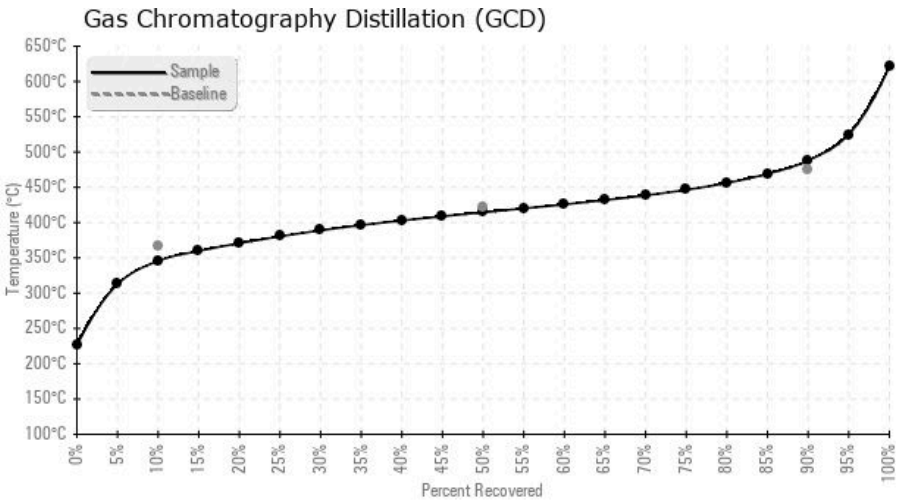


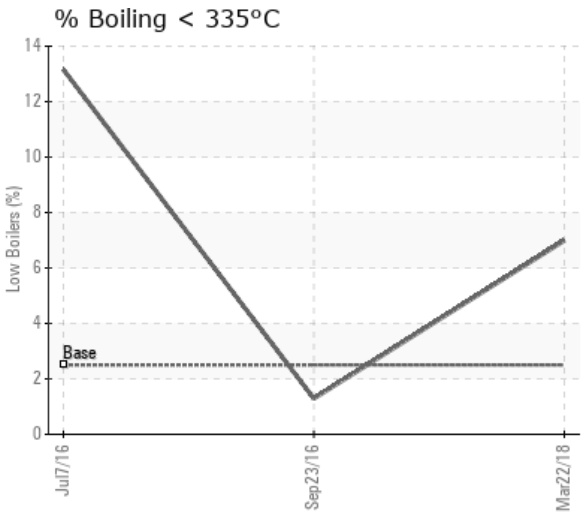




Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
03/22/18	54	0	0	0	0	1	0	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	195	0
09/23/16	116	0	0	0	0	0	0	0	0	0	14	1	0	0	0	0	1	0	0	0	0	0	288	1
07/07/16	20	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	15	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

09/23/16	Iron elevated. Sample is normal otherwise.Iron ppm levels are noted.
07/07/16	The oil viscosity is about half of what it should be. The flash point of the oil is now extremely low. The oil contains a large amount of low boilers (13% by weight). Similar to the other 4.0 sample, if the entire charge of the system fluid looks like this sample it brings the difficult decision that the fluid should probably be replaced or do a significant sweetening to restore the flash point and other properties. (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. (GCD) 90% Distillation Point is marginally high.