

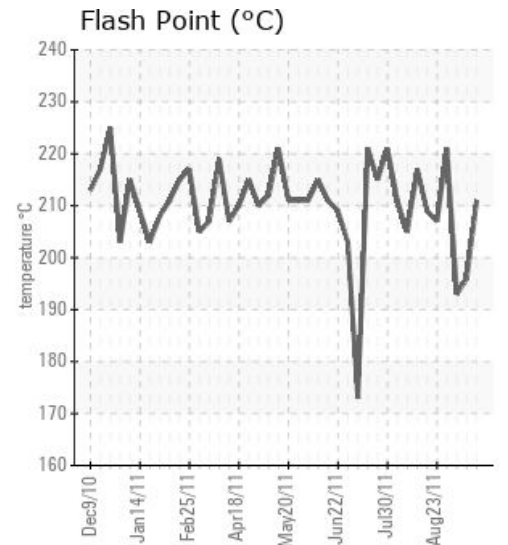
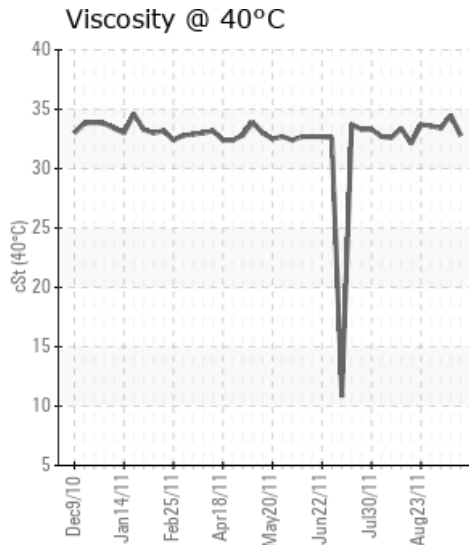
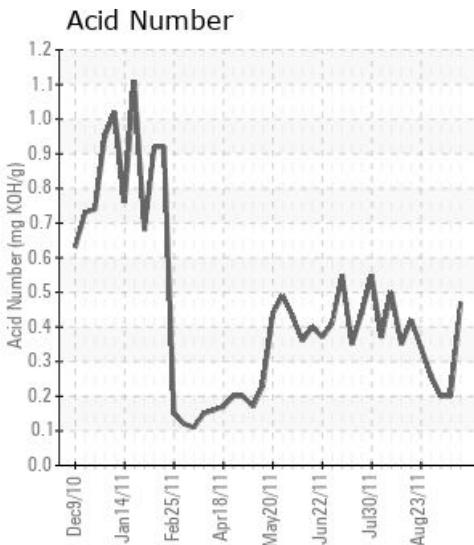
[Disto Oil Loop] SILANE 4.0 DISTILLATION

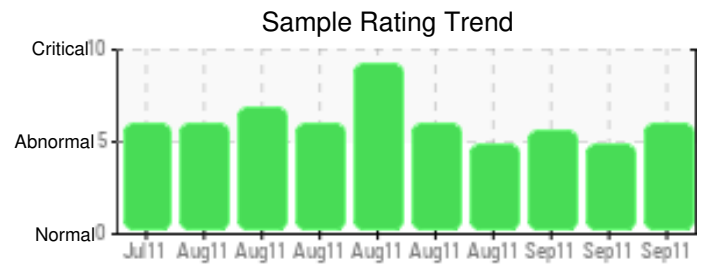
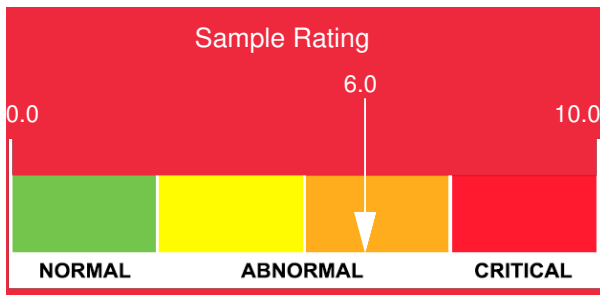
Customer: PTRHTF10093	System Information	Sample Information
REC GROUP 3322 ROAD N N.E. MOSES LAKE, WA 98837 USA Attn: Sam Bright Tel: (509)766-8902 E-Mail: sam.bright@recsilicon.com	System Volume: 50000 gal Bulk Operating Temp: 420F / 216C Heating Source: Blanket: Fluid: Make: COEN	Lab No: I-352159 Analyst: Gaston Arseneault Sample Date: 09/26/11 Received Date: 09/27/11 Completed: 10/03/11 To discuss this report contact Gaston Arseneault at 973-986-6503

Recommendation:

Comments: Silicon is at a SEVERE LEVEL; Acid Number is MODERATELY HIGH. GRAVIMETRIC SOLIDS is SLIGHTLY HIGH; This reboiler sample is more heavily contaminated than the expansion tank sample but we were cautioned that it may not be a true representative sample as it was taken from a dead leg.

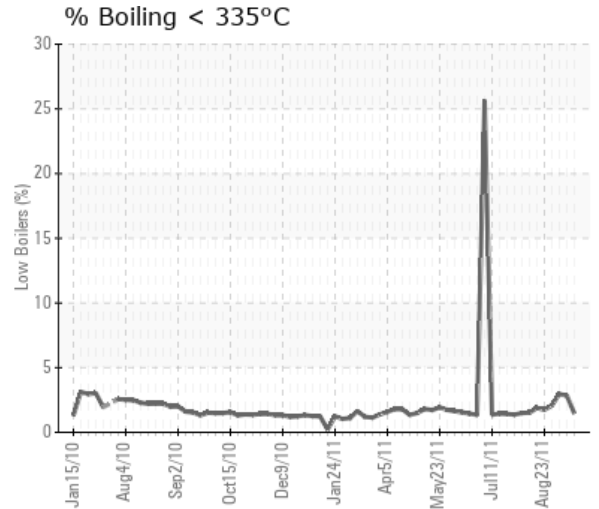
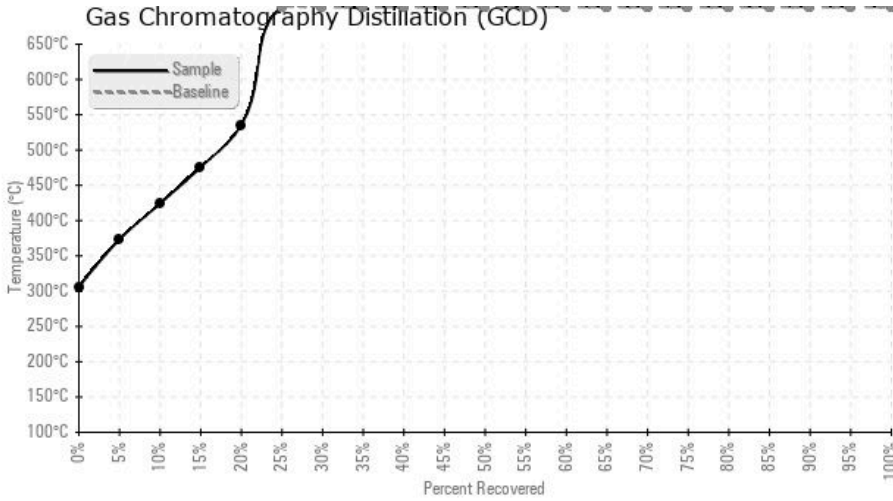
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
09/26/11	09/27/11		TES REBOILER FLOW ME	412 / 211	4	32.8	0.47	0.157	703 / 373	795 / 424	888 / 476	1.468
09/26/11	09/27/11		EXPANSION TANK	385 / 196	9	34.5	0.2	0.235	696 / 369	793 / 423	887 / 475	2.832
09/25/11	09/28/11		TCS REBOILER	379 / 193	18	33.4	0.2	0.207	695 / 369	793 / 423	887 / 475	2.962
08/29/11	09/07/11		HOT OIL EXPANSION DR	430 / 221	14	33.6	0.26	0.159	700 / 371	796 / 424	889 / 476	2.075
08/23/11	08/24/11		4.0 MCD PUMP #2	405 / 207	167	33.7	0.34	0.304	701 / 372	796 / 424	888 / 476	1.741
08/15/11	08/17/11		EXPANSION TANK	408 / 209	368	32.1	0.42	0.237	699 / 371	796 / 424	889 / 476	1.882
Baseline Data												





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
09/26/11	8	0	0	0	0	0	1	0	0	0	408	0	0	0	0	0	0	0	0	1	0	0	15	0
09/26/11	7	0	0	0	0	0	1	0	0	0	245	0	0	0	0	0	0	0	0	0	0	0	17	0
09/25/11	8	0	0	0	0	0	0	0	0	0	200	2	0	0	0	0	0	0	1	0	0	0	8	0
08/29/11	6	0	0	0	0	0	1	0	0	0	298	0	0	0	0	0	0	0	0	0	0	0	11	2
08/23/11	11	0	0	0	0	0	1	15	0	0	363	0	0	0	0	0	0	0	4	2	15	0	18	8
08/15/11	8	0	0	0	0	0	1	9	0	0	212	2	0	0	0	1	0	0	0	0	9	0	12	5
Baseline Data																								

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



Historical Comments

09/26/11	
09/25/11	
08/29/11	
08/23/11	
08/15/11	

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