

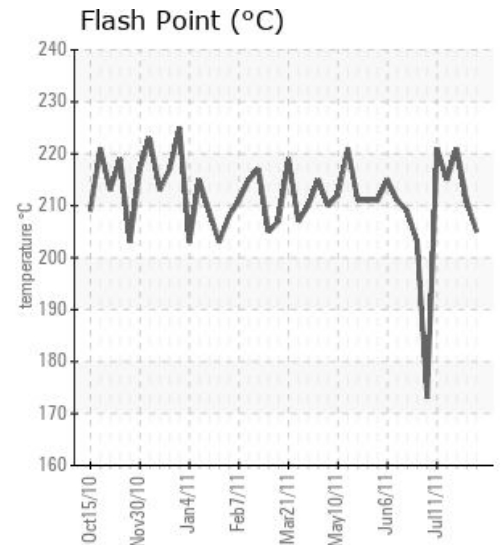
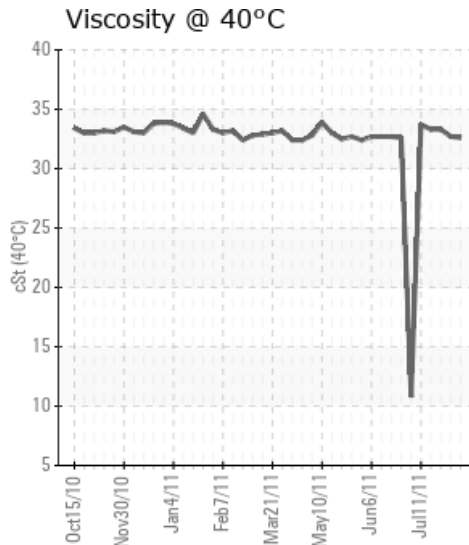
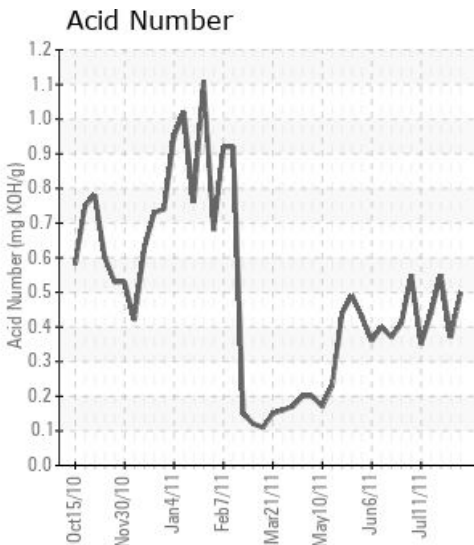
## [Disto Oil Loop] SILANE 4.0 DISTILLATION

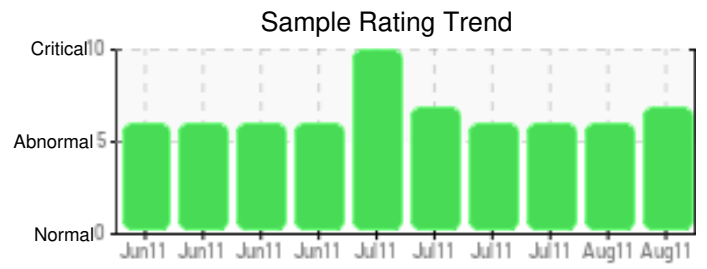
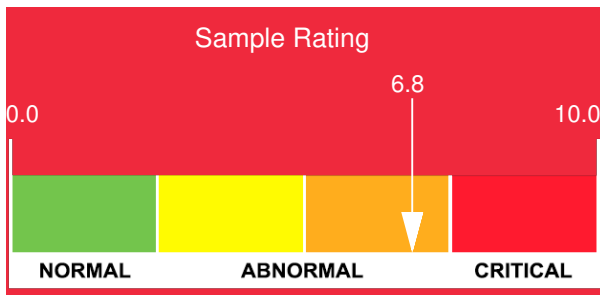
Customer: PTRHTF10093	System Information	Sample Information
<b>REC GROUP</b> 3322 ROAD N N.E. MOSES LAKE, WA 98837 USA Attn: Sam Bright Tel: (509)766-8902 E-Mail: sam.bright@recsilicon.com	System Volume: 50000 gal Bulk Operating Temp: 420F / 216C Heating Source: Blanket: Fluid: Make: COEN	Lab No: I-285312 Analyst: Gaston Arseneault Sample Date: 08/06/11 Received Date: 08/16/11 Completed: 08/18/11 To discuss this report contact Gaston Arseneault at 973-986-6503

### Recommendation:

Comments: Silicon is at a SEVERE LEVEL; Acid Number is MODERATELY HIGH. The TAN (acidity level) is rising since the last Aug 5 sample but the silicon is lower. Boron is appearing which is unusual, is there any Boron in your process?

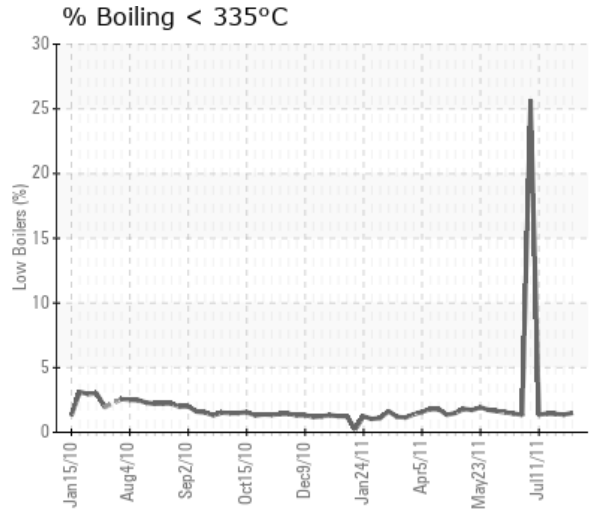
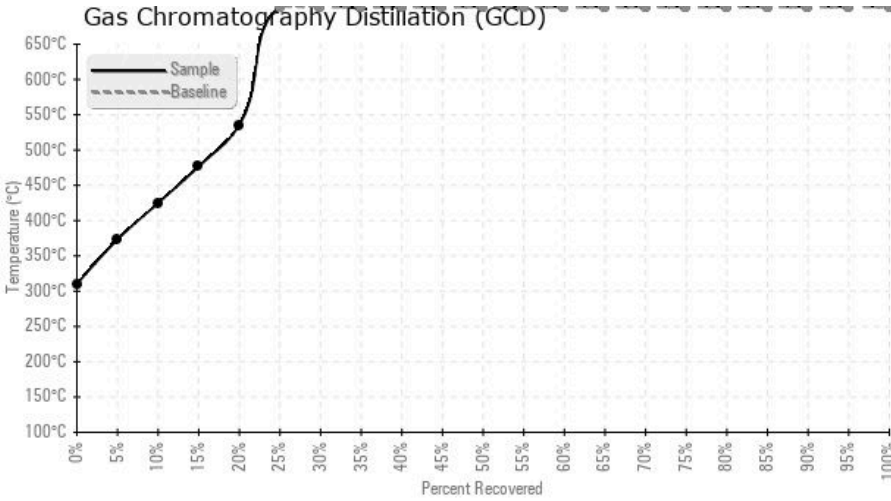
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
08/06/11	08/16/11		END LOOP	401 / 205	43	32.6	0.5	0.023	703 / 373	796 / 425	890 / 477	1.496
08/03/11	08/05/11		END LOOP	412 / 211	26	32.7	0.37	0.011	704 / 373	797 / 425	890 / 477	1.366
07/30/11	08/02/11		END LOOP	430 / 221	15	33.3	0.55	0.030	703 / 373	795 / 424	888 / 476	1.419
07/21/11	07/25/11		HOT OIL EXPANSION TA	419 / 215	39	33.3	0.44	0.042	703 / 373	796 / 424	888 / 475	1.451
07/11/11	07/13/11		HOT OIL EXPANSION TA	430 / 221	6	33.7	0.35	0.081	703 / 373	795 / 424	887 / 475	1.36
07/06/11	07/08/11		HOT OIL EXPANSION TA	343 / 173	19	10.8	0.55	0.007	556 / 291	687 / 364	778 / 414	25.64
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	
08/06/11	3	0	0	0	0	0	10	5	0	0	325	0	0	0	0	0	0	0	4	1	5	0	13	7	
08/03/11	4	0	0	0	0	0	1	3	0	0	388	4	2	0	0	0	0	0	0	0	3	0	8	2	
07/30/11	4	0	0	0	0	0	1	2	0	0	398	4	0	0	0	0	0	0	0	1	2	0	12	6	
07/21/11	5	0	0	0	0	0	2	1	0	0	377	0	1	0	0	0	0	0	0	1	1	0	5	0	
07/11/11	7	0	0	1	0	0	11	2	0	0	411	0	0	0	0	0	0	0	0	0	2	0	14	2	
07/06/11	2	0	0	12	0	1	3	4	0	0	210	0	0	0	0	0	0	0	0	0	4	0	0	1	
Baseline Data																									

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



Historical Comments	
08/03/11	
07/30/11	
07/21/11	
07/11/11	
07/06/11	

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