

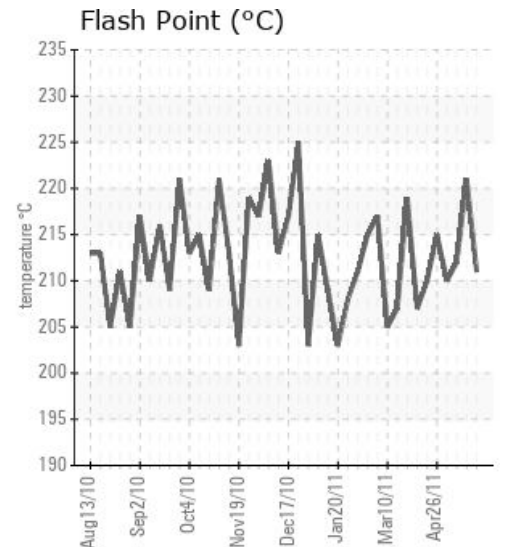
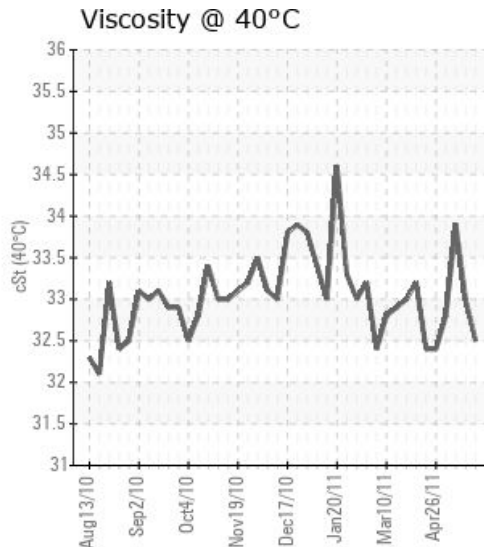
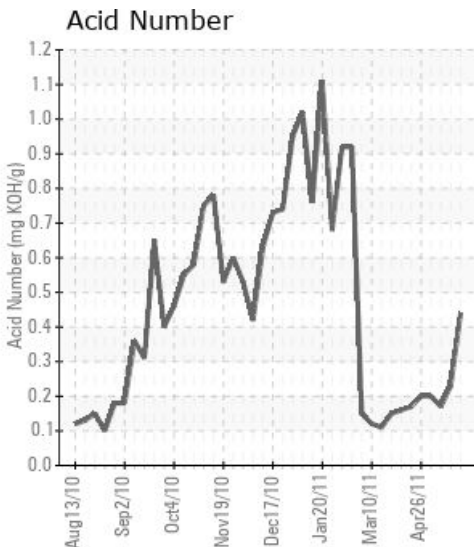
[Disto Oil Loop] SILANE 4.0 DISTILLATION

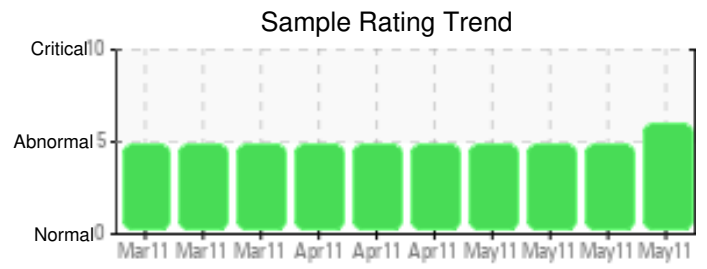
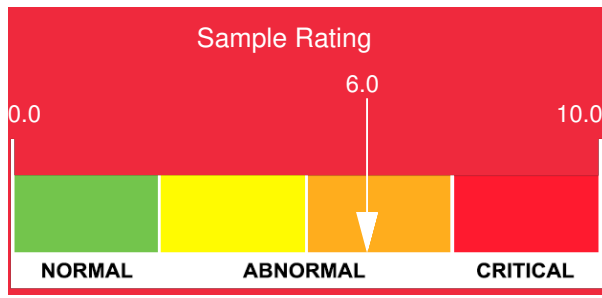
Customer: PTRHTF10093	System Information	Sample Information
REC GROUP 3322 ROAD N N.E. MOSES LAKE, WA 98837 USA Attn: Sam Bright Tel: (509)766-8902 E-Mail: sam.bright@recsilicon.com	System Volume: 50000 gal Bulk Operating Temp: 420F / 216C Heating Source: Blanket: Fluid: Make: COEN	Lab No: I-156536 Analyst: Gaston Arseneault Sample Date: 05/20/11 Received Date: 05/23/11 Completed: 05/31/11 To discuss this report contact Gaston Arseneault at 973-986-6503

Recommendation:

Comments: Silicon is at a SEVERE LEVEL; Acid Number is MODERATELY HIGH. Rapid increase of Silicon and TAN confirming chlorosilance ingress in the heat transfer fluid stream.

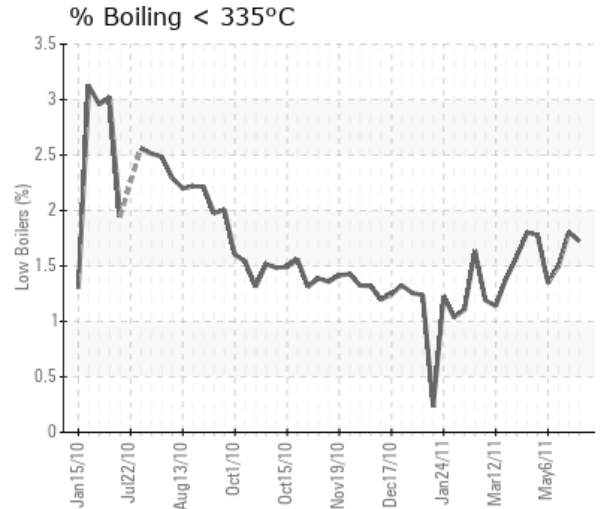
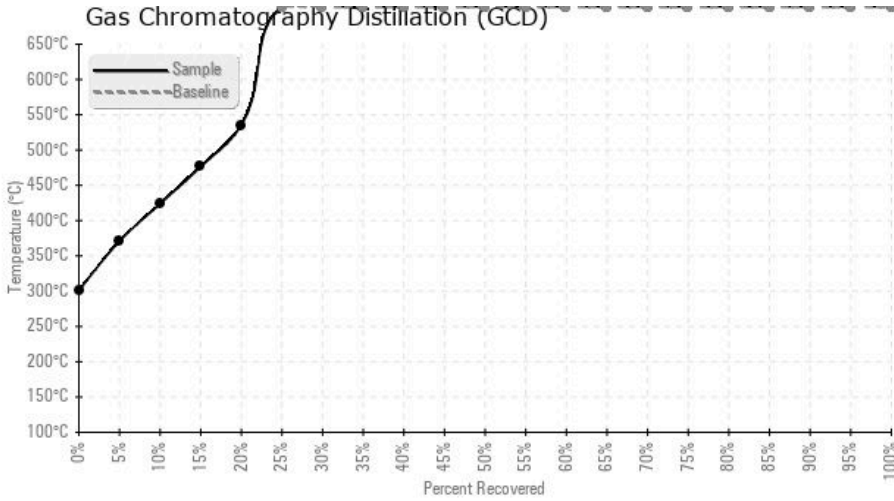
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/20/11	05/23/11		EXPANSION TANK	412 / 211	6	32.5	0.44	0.049	699 / 371	795 / 424	889 / 476	1.725
05/17/11	05/20/11		EXPANSION TANK	430 / 221	6	33	0.23	0.030	700 / 371	795 / 424	889 / 476	1.806
05/10/11	05/11/11		HOT OIL EXPANSION TA	414 / 212	10	33.9	0.17	0.034	701 / 372	794 / 424	888 / 476	1.497
05/06/11	05/10/11		HOT OIL EXPANSION TA	410 / 210	19	32.8	0.2	0.015	701 / 372	794 / 424	888 / 476	1.346
04/26/11	04/28/11		4.0 HOT OIL EXPANSIO	419 / 215	115	32.4	0.2	0.029	700 / 371	794 / 424	889 / 476	1.781
04/18/11	04/20/11		NA	410 / 210	110	32.4	0.17	0.044	700 / 371	795 / 424	889 / 476	1.801
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	
05/20/11	5	0	0	0	0	0	0	0	0	0	374	0	0	0	0	0	0	0	0	0	0	0	10	0	
05/17/11	5	0	0	0	0	0	0	0	0	0	342	0	1	0	0	1	0	0	0	0	0	0	9	0	
05/10/11	5	0	0	0	0	0	0	0	0	0	333	0	5	0	0	0	0	0	1	0	0	0	9	1	
05/06/11	4	0	0	0	0	0	0	1	0	0	324	0	0	0	0	0	0	0	0	0	1	0	9	1	
04/26/11	8	0	0	0	0	0	3	4	0	0	350	1	0	0	0	0	0	0	0	0	4	0	8	3	
04/18/11	6	0	0	0	0	0	0	2	0	0	354	0	0	0	0	0	0	0	0	0	2	0	7	2	
Baseline Data																									

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



Historical Comments	
05/17/11	
05/10/11	
05/06/11	
04/26/11	
04/18/11	

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