

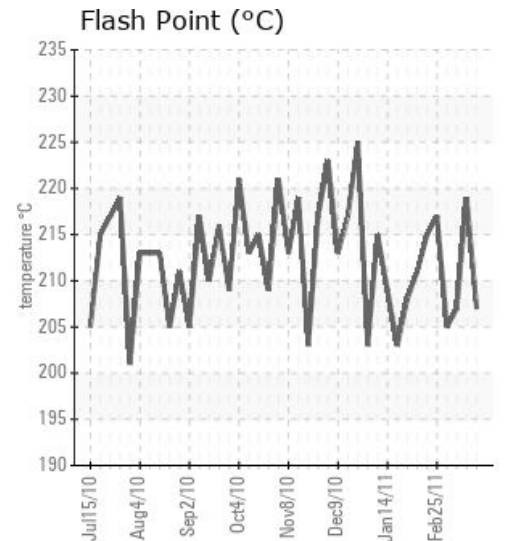
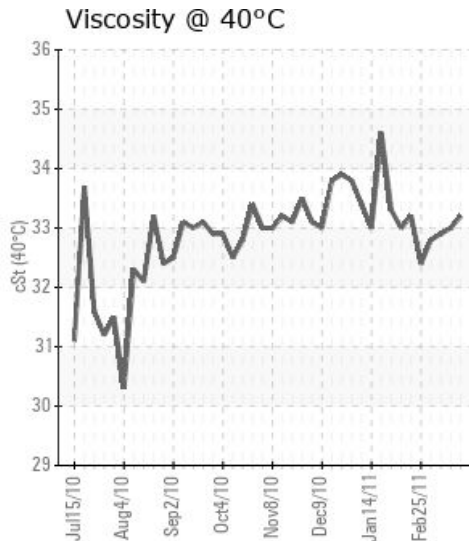
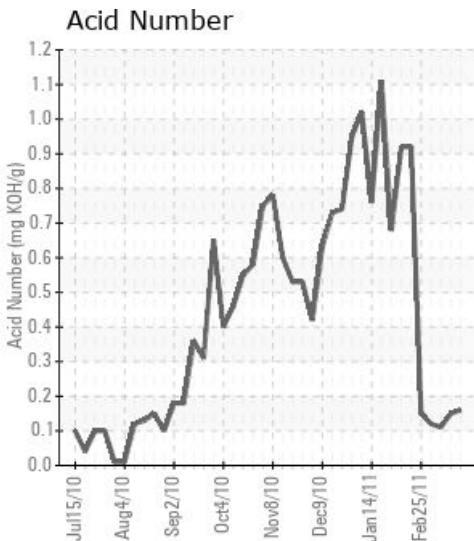
[Disto Oil Loop] SILANE 4.0 DISTILLATION

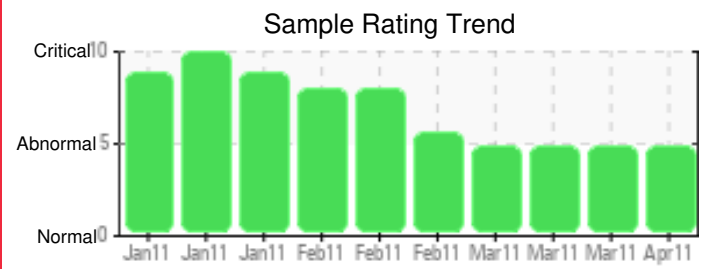
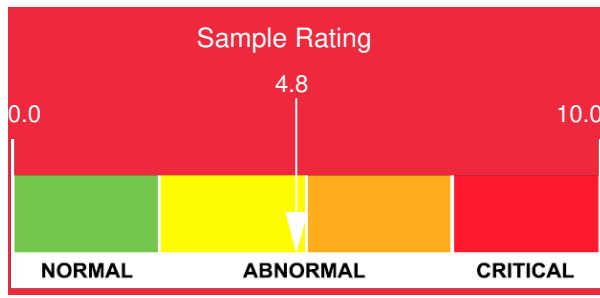
Customer: PTRHTF10093	System Information	Sample Information
REC GROUP 3322 ROAD N N.E. MOSES LAKE, WA 98837 USA Attn: Sam Bright Tel: (509)766-8902 E-Mail: sam.bright@recsilicon.com	System Volume: 50000 gal Bulk Operating Temp: 420F / 216C Heating Source: Blanket: Fluid: Make: COEN	Lab No: I-Y85984 Analyst: Gaston Arseneault Sample Date: 04/05/11 Received Date: 04/07/11 Completed: 04/14/11 To discuss this report contact Gaston Arseneault at 973-986-6503

Recommendation:

Comments: Silicon is at a SEVERE LEVEL; Results are virtually identical to the last sample so please refer to the same comments.

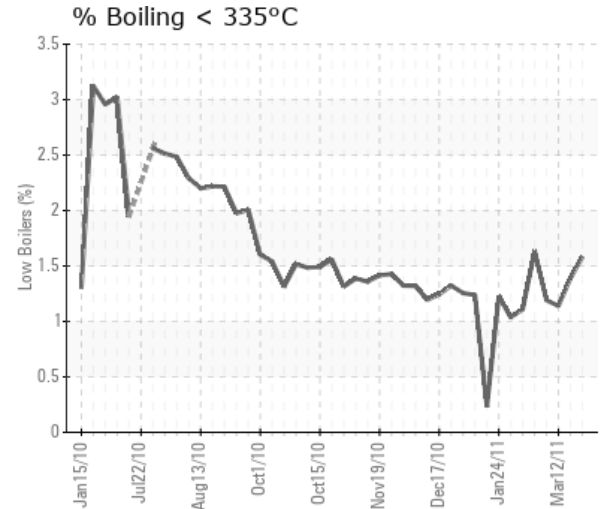
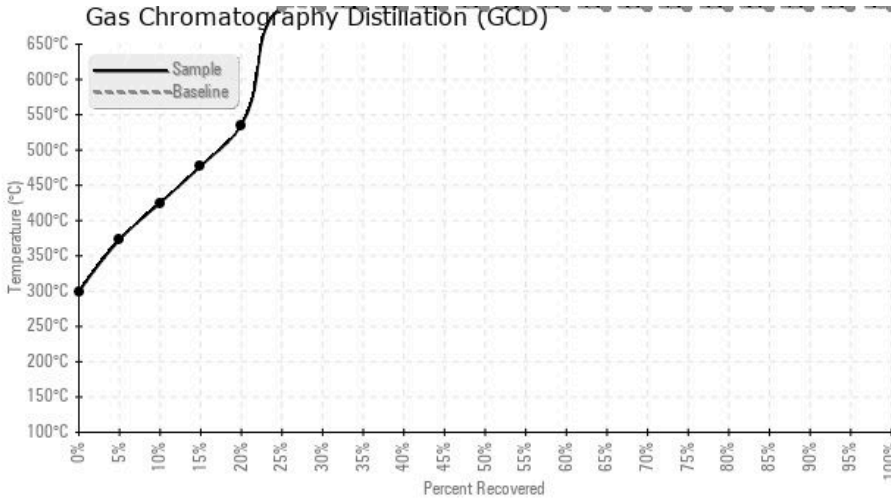
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/05/11	04/07/11		4.0 HOT OIL EXP	405 / 207	3	33.2	0.16	0.025	703 / 373	797 / 425	891 / 477	1.583
03/21/11	03/25/11		4.0 HOTOIL EXPANISIO	426 / 219	93	33	0.15	0.032	702 / 372	796 / 425	890 / 476	1.388
03/12/11	03/18/11		4.0 HOT OIL EXPANSIO	405 / 207	9	32.9	0.11	0.029	704 / 373	796 / 425	890 / 477	1.14
03/10/11	03/18/11		4.0 HOT EXPANSION TA	401 / 205	89	32.8	0.12	0.049	703 / 373	797 / 425	890 / 477	1.19
02/25/11	03/01/11		HOT OIL EXPANSION TA	423 / 217	10	32.4	0.15	0.030	701 / 372	796 / 425	889 / 476	1.634
02/08/11	02/11/11		EXPANSION TANK	419 / 215	13	33.2	0.92	0.018	704 / 373	797 / 425	890 / 477	1.109
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
04/05/11	6	0	0	0	0	1	0	3	0	0	319	0	0	0	0	1	0	0	0	0	3	0	9	2
03/21/11	7	0	0	0	0	0	0	2	0	0	316	0	1	0	0	1	0	0	0	1	2	10	10	3
03/12/11	7	0	0	0	0	0	0	0	0	0	320	1	0	0	0	0	0	0	0	0	0	0	6	0
03/10/11	9	0	0	0	0	0	1	0	0	0	315	1	0	0	0	0	0	0	0	0	0	0	7	0
02/25/11	8	0	0	0	0	0	0	17	0	0	327	0	4	0	0	0	0	0	0	0	17	0	11	5
02/08/11	10	0	0	0	0	0	1	6	0	0	328	0	0	0	0	0	0	0	0	1	6	0	12	5
Baseline Data																								

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



Historical Comments	
03/21/11	The results look like the last few samples whereas the TAN stabilized around 0.15 and the Silicon lingers at ~300 ppm. We see traces of Barium which is unseen before but we will wait to see if it's the beginning of a trend or a one-off result before commenting further. Re-sample at next normal interval.
03/12/11	same comments as previous sample. Encouraging results with TAN dropping which means the hydrochloric acid is not posing as much of a threat anymore.
03/10/11	The silicon is still present (~300 ppm) however the acidity of the oil has dropped dramatically. The TAN dropped from nearly 1.0 down to 0.15. Not certain if it's safe to say the silicon that is there will remain but at least there doesn't seem to be formation of hydrochloric acid anymore. Let's keep monitoring the situation.
02/25/11	The encouraging news is that the TAN dropped from 0.95 to 0.15 mg KOH/g which might mean that the acidic form of contamination (hydrochloric acid ?) was greatly removed. The silicon remains high at 327 ppm, still lower than the 400 ppm at the peak of the contamination but with the low TAN it appears the form of silicon lingering around may not have been removed by filtration. Keep up the good work.
02/08/11	Silicone decreased again on this sample so a drop from 398 ppm a couple weeks ago to 328 now. Hopefully this is a representation of the entire system and let's watch carefully in coming weeks now that the reboilers have been cleaned down to bare metal.

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