

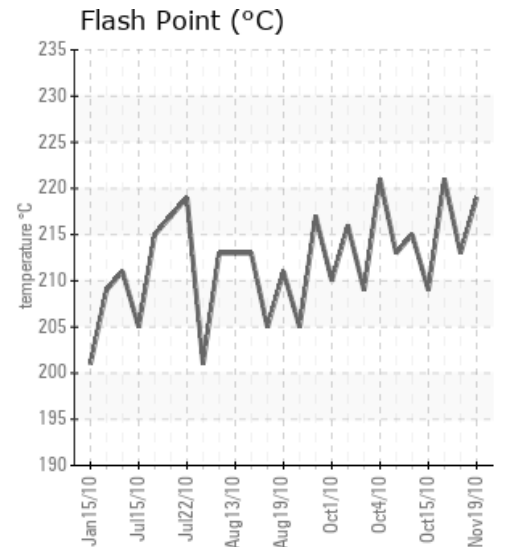
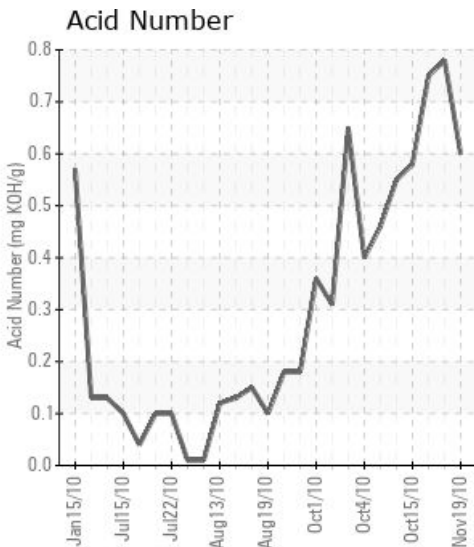
## [Disto Oil Loop] SILANE 4.0 DISTILLATION

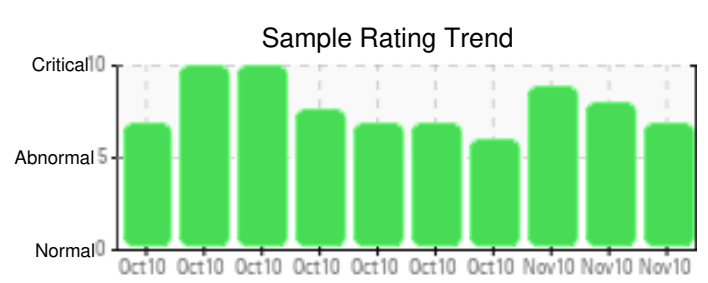
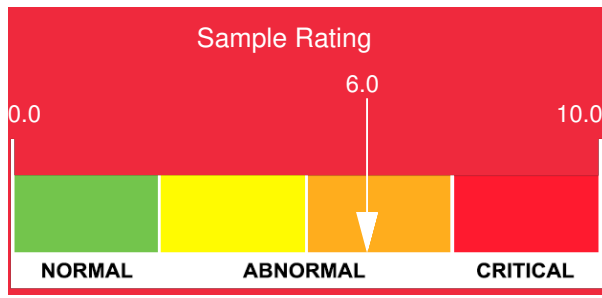
Customer: PTRHTF10093	System Information	Sample Information
<b>REC GROUP</b> 3322 ROAD N N.E. MOSES LAKE, WA 98837 USA Attn: Sam Bright Tel: (509)766-8902 E-Mail: sam.bright@recsilicon.com	System Volume: 50000 gal Bulk Operating Temp: 420F / 216C Heating Source: Blanket: Fluid: Make: COEN	Lab No: I-W84627 Analyst: Gaston Arseneault Sample Date: 11/19/10 Received Date: 11/24/10 Completed: 12/03/10 To discuss this report contact Gaston Arseneault at 973-986-6503

Recommendation:

Comments: Acid Number is MODERATELY HIGH. Silicon is at a SEVERE LEVEL; Chlorine Results: 600 ppm

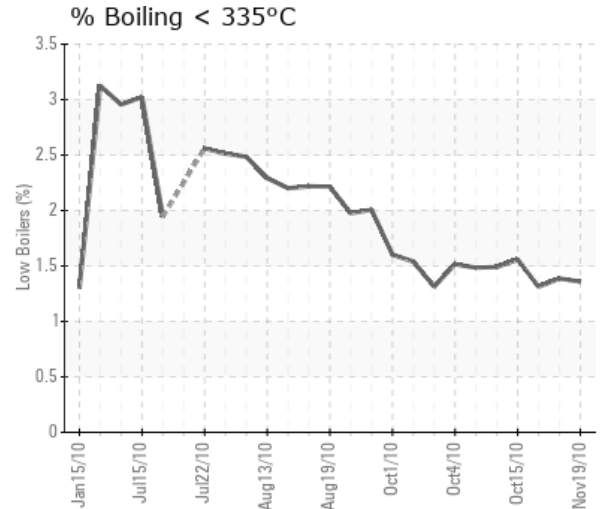
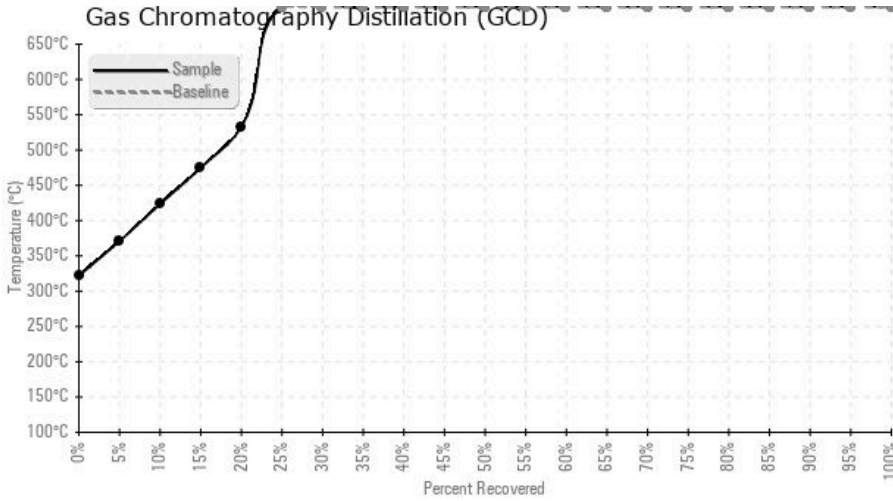
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
11/19/10	11/24/10		DCS	397 / 203	8	33.1	0.53	0.047	699 / 371	794 / 423	888 / 475	1.414
11/19/10	11/24/10		HOT OIL EXPANSION	426 / 219	4	33.2	0.6	0.097	699 / 371	794 / 423	886 / 475	1.359
11/08/10	11/10/10		EXPANSION TANK	415 / 213	73	33	0.78	0.053	699 / 371	793 / 423	885 / 474	1.387
11/02/10	11/08/10		TCS VAPORIZER OUTLET	430 / 221	68	33	0.75	0.044	700 / 371	794 / 423	887 / 475	1.313
10/15/10	10/19/10		HOT OIL EXPANSION TA	408 / 209	11	33.4	0.58	0.053	698 / 370	792 / 422	887 / 475	1.559
10/15/10	10/19/10		VAPORIZER	419 / 215	10	32.8	0.55	0.041	697 / 370	793 / 423	887 / 475	1.49
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	
11/19/10	13	0	0	0	0	0	6	3	0	0	349	0	0	0	0	0	0	0	2	0	3	0	9	0	
11/19/10	14	0	0	0	0	0	35	15	0	0	381	0	0	0	0	0	0	0	2	0	15	0	13	5	
11/08/10	7	0	0	0	0	0	5	0	0	0	289	0	0	0	0	0	0	0	0	0	0	0	15	0	
11/02/10	7	0	0	0	0	0	37	0	0	0	304	0	0	0	0	0	0	0	1	0	0	0	11	0	
10/15/10	8	0	0	0	0	0	2	1	0	0	278	0	0	0	0	0	0	0	0	0	1	0	14	1	
10/15/10	4	0	0	0	0	0	32	0	0	0	270	0	0	0	0	0	0	0	0	0	0	0	13	0	
Baseline Data																									

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



### Historical Comments

11/19/10	
11/08/10	
11/02/10	Compared to other TCS Vaporizer samples the Silicon is still rising and so is the Acid Number. We are starting to suspect the Acid Number is not rising because of the fluid oxidizing but rather because of the hydrochloric acid formation because the viscosity and distillation properties still look like fresh oil despite the very high AN.
10/15/10	The tin dropped all of a sudden. Silicon is still high and so is Acid Number.
10/15/10	Same comments as other sample

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