

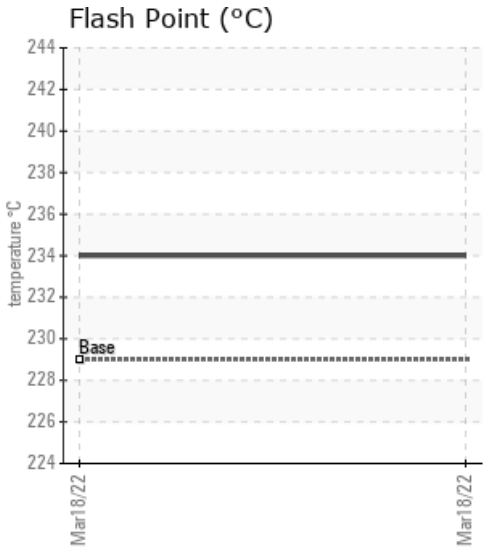
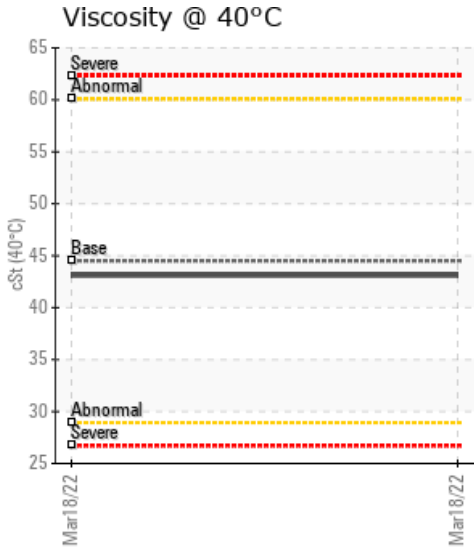
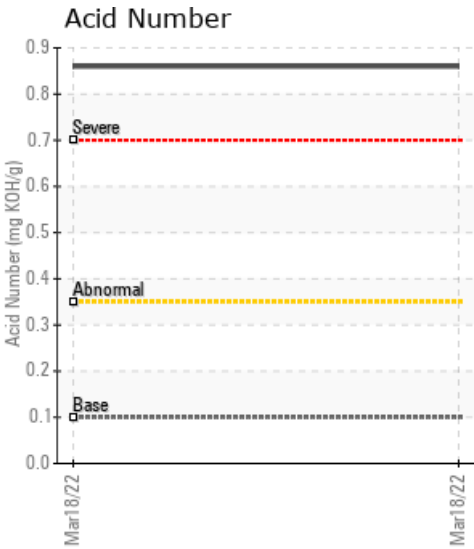
## JASPER PLANT 15

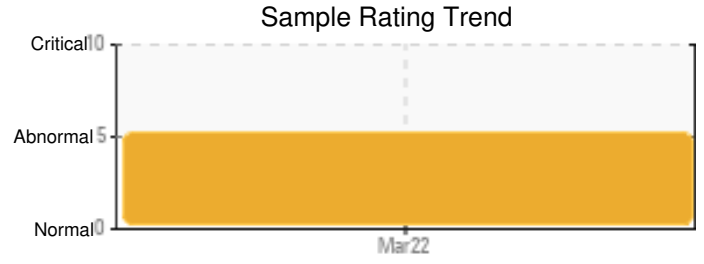
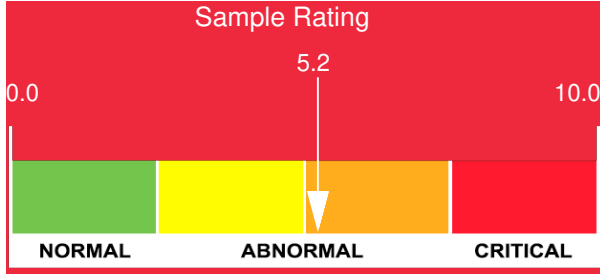
Customer: PTRHTF10253	System Information	Sample Information
JASPER GROUP PLANT #15 201 EAST MARTIN ST ORLEANS, IN 47452 USA Attn: Jody Mills Tel: 8(124)823-2043 E-Mail: earvin@ackoil.com	System Volume: 150 gal Bulk Operating Temp: Not Specified Heating Source: Blanket: Fluid: SCHAEFFER 281 HEAT TRANSFER OIL Make:	Lab No: 02480078 Analyst: Joe Goecke Sample Date: 03/18/22 Received Date: 03/29/22 Completed: 05/02/22 Joe Goecke Joe.goecke@hollyfrontier.com

Recommendation: acid number is severely high and system should be changes to prevent system damage.

Comments: Acid Number (AN) is severely high. (GCD) 90% Distillation Point is severely high.

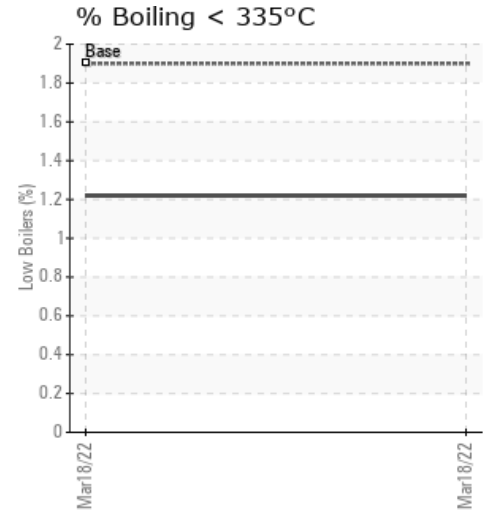
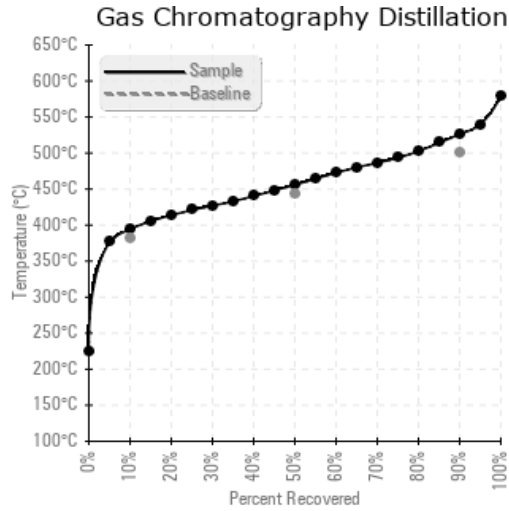
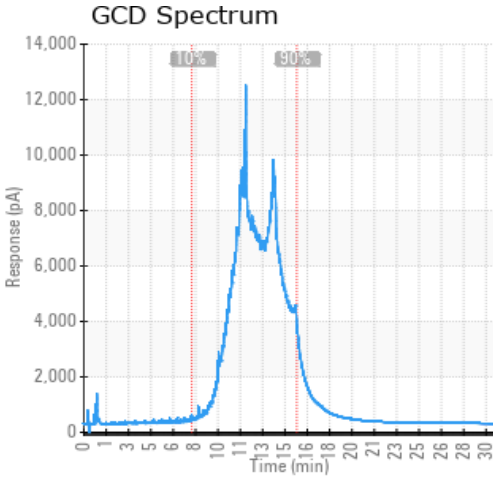
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
03/18/22	03/29/22	5.0y	return line	453 / 234	27.4	43.1	0.86	0.052	742 / 394	853 / 456	979 / 526	1.22
Baseline Data				444 / 229		44.5	0.1		720 / 382	828 / 442	934 / 501	1.9





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
03/18/22	0	0	0	0	0	0	5.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
<b>Baseline Data</b>			0	0						0			0	0				0	0				0	

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



### Historical Comments


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