

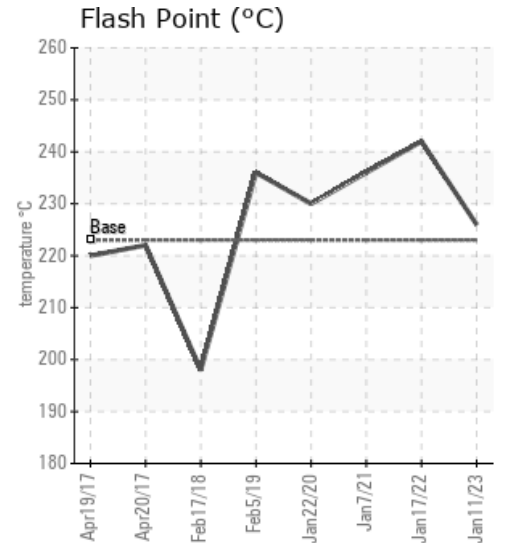
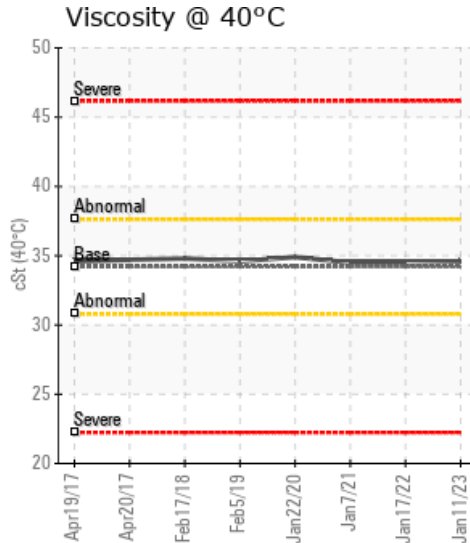
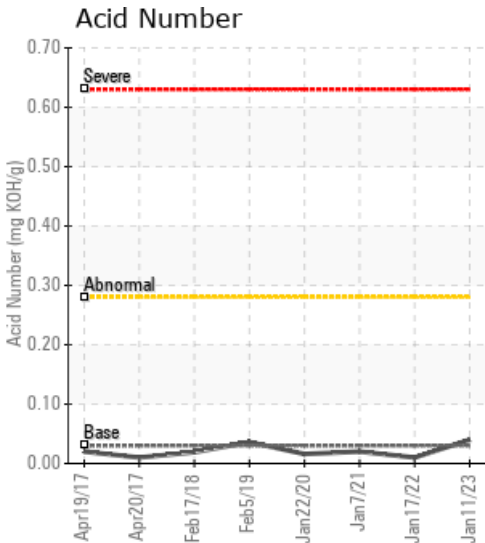
## [STEEL REEF ALAMEDA PLANT / 16-08-4-3W2] HEAT MEDIUM

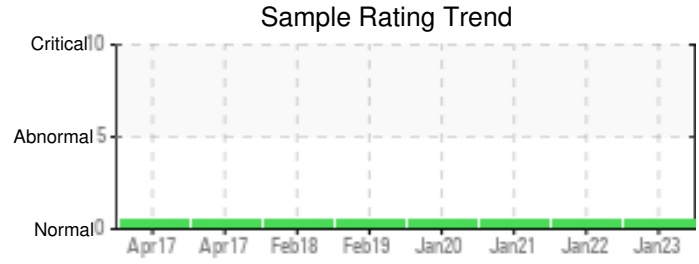
Customer: PTRHTF20185	System Information	Sample Information
<b>STEEL REEF</b> 16-08-04-03 W2 ALAMEDA, SK CA Attn: Carter Zander Tel: (306)577-5237 E-Mail: carter.zander@steelreef.ca	System Volume: 35000 ltr Bulk Operating Temp: 414F / 212C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: RUSHTON	Lab No: 02533598 Analyst: Lyle Dach Sample Date: 01/11/23 Received Date: 01/16/23 Completed: 01/19/23 Lyle Dach lyle.dach@HFSinclair.com

Recommendation: Sample results indicate that the fluid is in very good condition and is suitable for continued service. Resample in 12 months.

Comments:

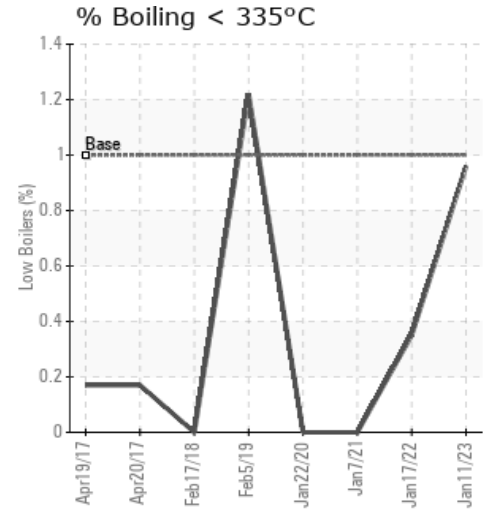
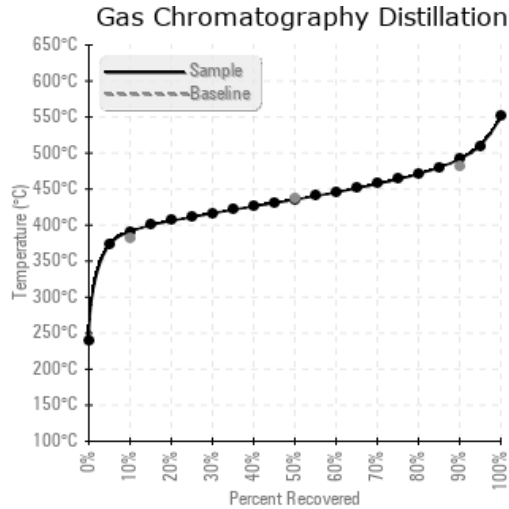
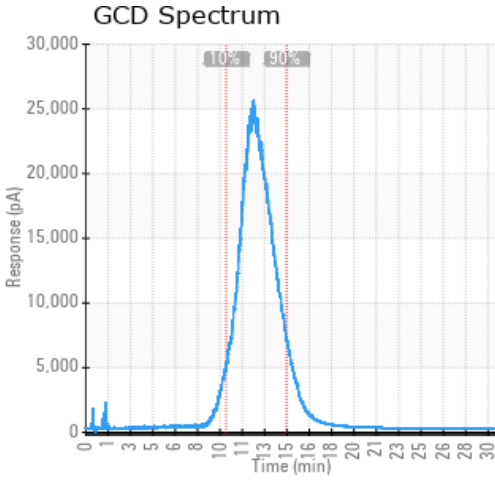
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/11/23	01/16/23	7.0y	return line	439 / 226	0.00	34.6	0.04	0.050	736 / 391	816 / 435	917 / 492	0.96
01/17/22	01/24/22	5.0y	Return	468 / 242	0.4	34.5	0.01	0.051	727 / 386	812 / 433	913 / 489	0.35
01/07/21	01/19/21	2.0y	Tubing line of fltr	457 / 236	5.0	34.5	0.02	0.074	729 / 387	813 / 434	915 / 490	0.00
01/22/20	01/30/20	3.3y	RETURN	446 / 230	0.00	34.9	0.016	0.051	732 / 389	801 / 427	897 / 480	0.00
02/05/19	02/12/19	2.5y		457 / 236	3.1	34.6	0.036	0.010	695 / 369	785 / 419	889 / 476	1.22
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00





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
01/11/23	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0
01/17/22	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
01/07/21	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
01/22/20	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0
02/05/19	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Baseline Data</b>			0	0						0			0	0					0				0	

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



### Historical Comments

01/17/22	Sample results indicate that the fluid is in very good condition and is suitable for continued service. Resample in 12 months.
01/07/21	Fluid condition is excellent. Suggest to continue to submit fluid samples annually.
01/22/20	Fluid condition remains excellent, with almost no change from the previous sample a year ago. Continue to submit annual samples to proactively monitor fluid condition.
02/05/19	Fluid continues to be in very good condition, essentially no change since the previous sample Feb 2018. Suggest continue to submit annual samples to monitor fluid condition.

Petro-Canada makes no representation or warranty of any kind, either express or implied, as to the accuracy or completeness of the analysis and assumes no responsibility and shall have no liability whatsoever with respect to such analysis, or a party's use of it. Petro-Canada is a division of HollyFrontier Corporation.