

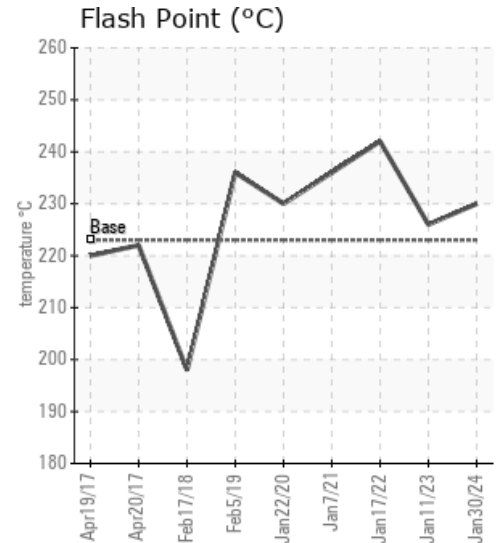
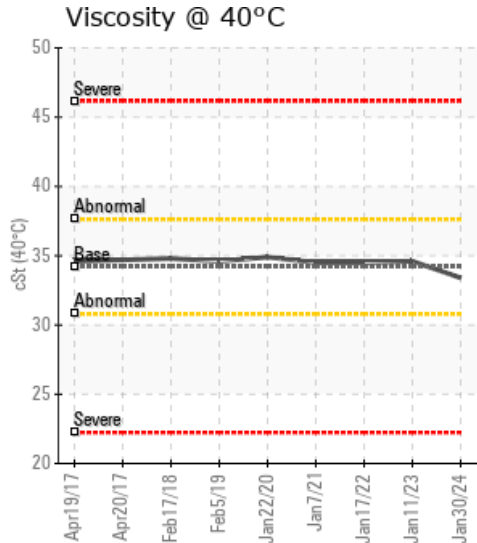
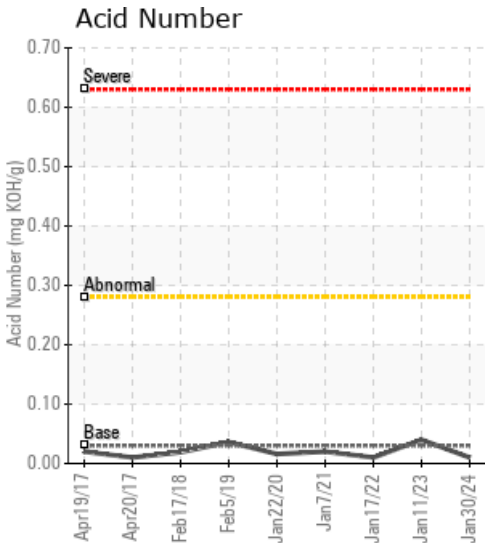
[STEEL REEF ALAMEDA PLANT / 16-08-4-3W2] HEAT MEDIUM

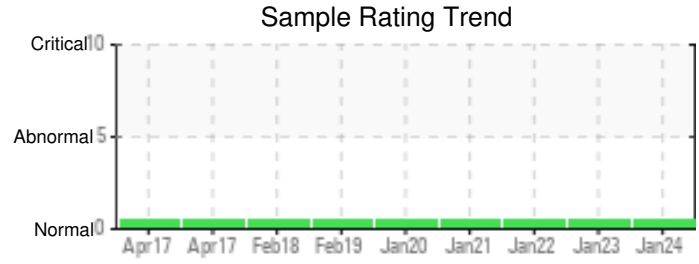
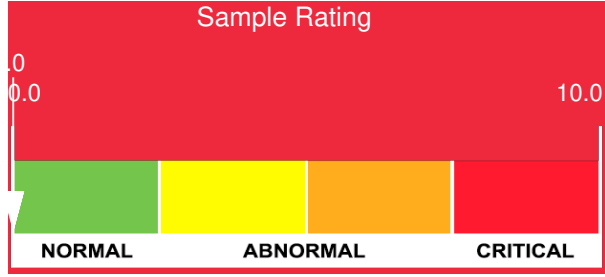
Customer: PTRHTF20185	System Information	Sample Information
STEEL REEF 16-08-04-03 W2 ALAMEDA, SK CA Attn: Carter Zander Tel: (306)577-5237 E-Mail: carter.zander@steelreef.ca	System Volume: 35000 ltr Bulk Operating Temp: 414F / 212C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: RUSHTON	Lab No: 02615478 Analyst: Lyle Dach Sample Date: 01/30/24 Received Date: 02/13/24 Completed: 02/22/24 Lyle Dach lyle.dach@HFSinclair.com

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

Comments:

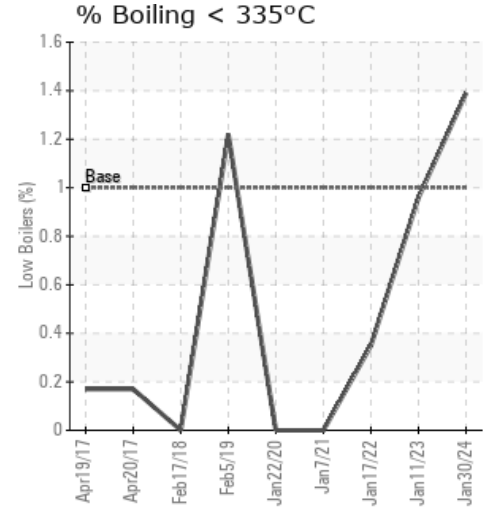
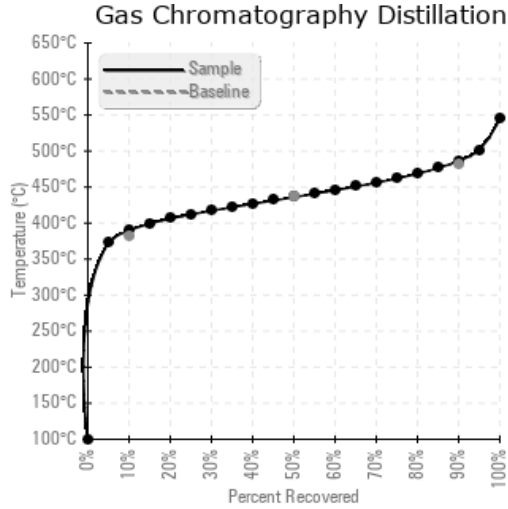
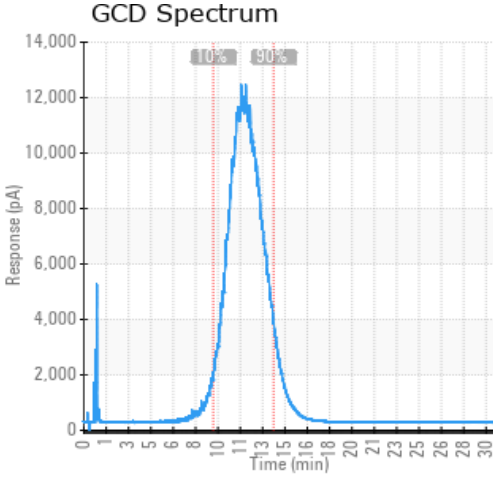
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
01/30/24	02/13/24	8.0y		446 / 230	22	33.4	0.01	0.054	733 / 390	817 / 436	907 / 486	1.39
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 filtr	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
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
01/30/24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
Baseline Data			0	0						0		0	0					0				0		

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



Historical Comments	
01/11/23	Sample results indicate that the fluid is in very good condition and is suitable for continued service. Resample in 12 months.
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.

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