

# [KEYERA BRAZEAU RIVER GAS PLANT / 3-12-46-14W5] PLANT 1

**Customer: PTRHTF30084**  
 Keyera Partnership Brazeau River Ga...  
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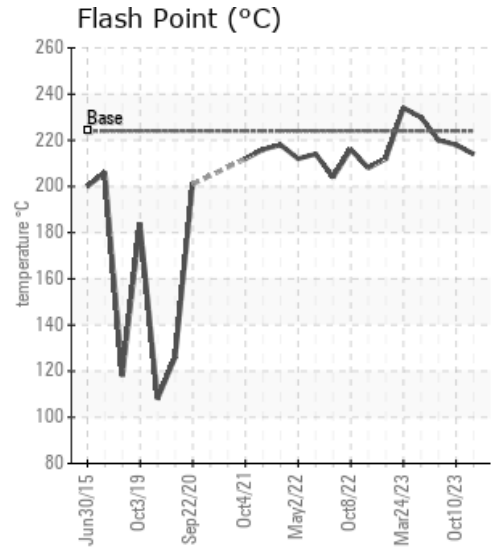
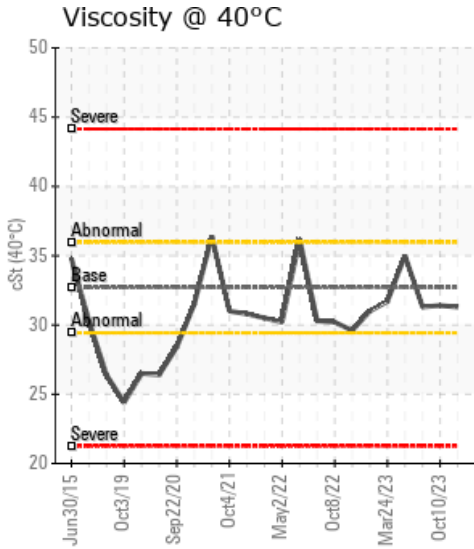
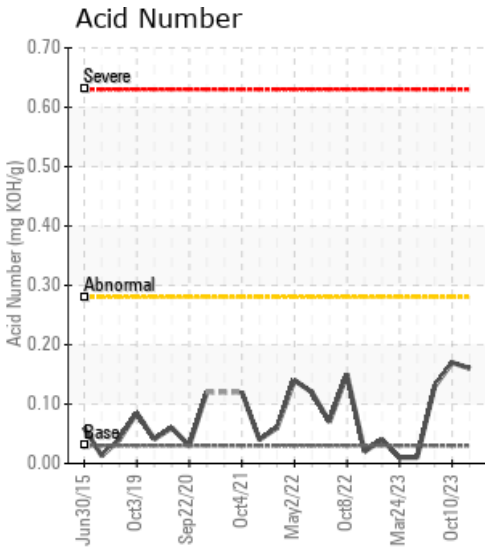
**System Information**  
 System Volume: 14000 ltr  
 Bulk Operating Temp: 446F / 230C  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA CALFLO AF  
 Make: IAP HEATER

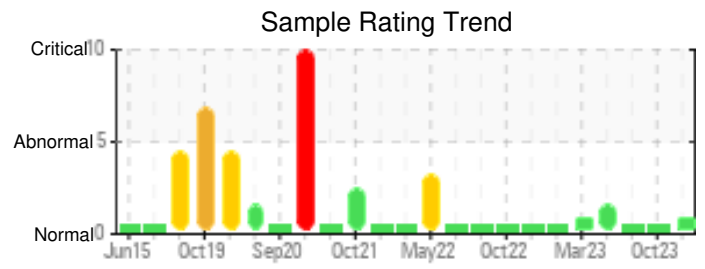
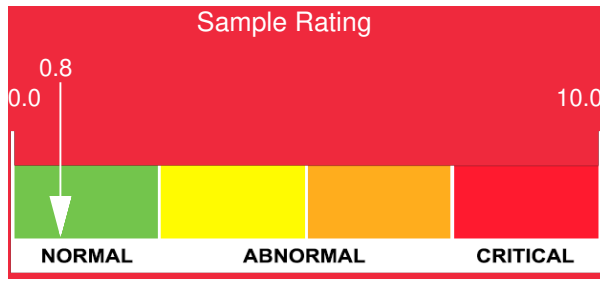
**Sample Information**  
 Lab No: 02602067  
 Analyst: Lyle Dach  
 Sample Date: 11/30/23  
 Received Date: 12/08/23  
 Completed: 12/13/23  
 Lyle Dach  
 lyle.dach@HFSinclair.com

Recommendation: Sample results indicate that the fluid is in suitable condition for continued service. 90% distillation point is slightly elevated, confirm blanket gas is functioning properly as fluid oxidizing could cause the increase. Resample in 12 months.

Comments: (GCD) 90% Distillation Point is abnormally high.

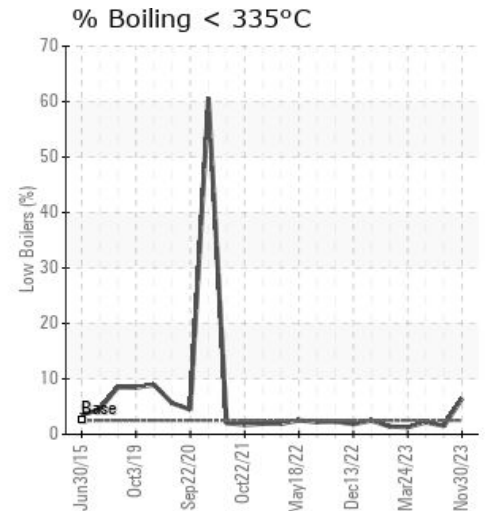
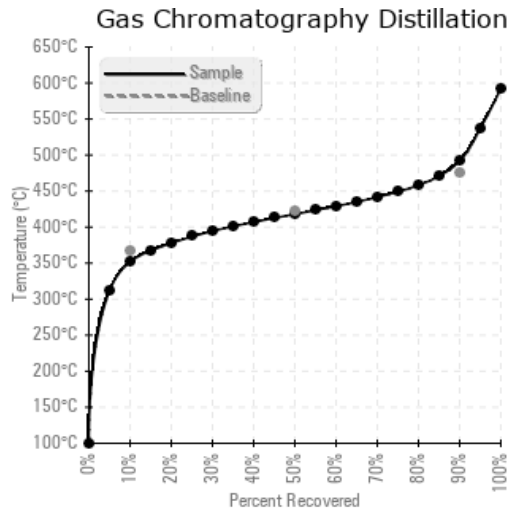
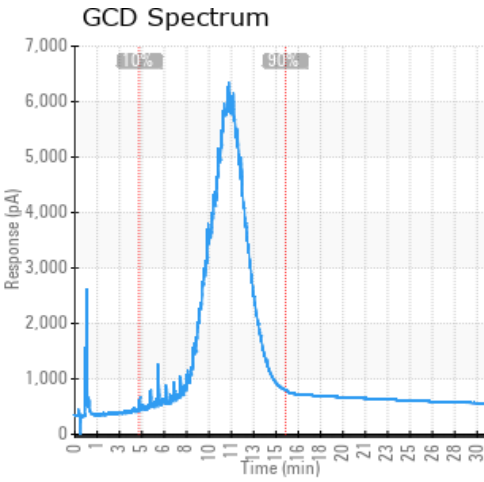
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
11/30/23	12/08/23	0.0m	HOH #1 pump	417 / 214	45	31.3	0.16	0.041	666 / 352	784 / 418	916 / 491	6.45
10/10/23	10/11/23	0.0m		424 / 218	22.1	31.4	0.17	0.136	706 / 374	805 / 429	901 / 483	1.50
07/10/23	07/19/23	24.0m	after main pump	428 / 220	29.5	31.3	0.13	0.052	703 / 373	803 / 428	898 / 481	2.18
03/24/23	04/05/23	0.0m	18-06	446 / 230	120.6	35.0	0.01	0.031	731 / 388	817 / 436	913 / 490	1.27
03/24/23	04/05/23	24.0m		453 / 234	13.7	31.7	0.01	0.028	725 / 385	808 / 431	902 / 483	1.41
Baseline Data				435 / 224		32.7	0.03		693 / 367	790 / 421	887 / 475	2.5





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
11/30/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	45	0
10/10/23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	48	0
07/10/23	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	55	1
03/24/23	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	20	0
03/24/23	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	299	2
<b>Baseline Data</b>			0	0						0			0	0					0				270	

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



### Historical Comments

10/10/23	Sample results indicate that the fluid is in suitable condition for continued service. Resample in 12 months.
07/10/23	Sample results indicate that the fluid is in suitable condition for continued service. Resample in 12 months. Sample color did get darker, looks similar to the March 4th sample.
03/24/23	Fluid is in good condition overall. Sulfur, viscosity, 10% and 90% distillation are slightly high. Sample location could have affected the results, this sample was collected from the seal flush tank. Water content is low. (GCD) 10% Distillation Point is marginally high. (GCD) 90% Distillation Point is marginally high.
03/24/23	Sample results indicate that the fluid is in very good condition and would be suitable for continued service. Water content is very low, 10% distillation of 385°C would be considered within spec of new fluid. Resample in 12 months. (GCD) 10% Distillation Point is marginally high.

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