

# PHASE 1

**Customer: PTRHTF10092**  
 REC GROUP  
 119410 RICK JONES WAY  
 BUTTE (SILVER BOW), MT 59750 US  
 Attn: Bill Telling  
 Tel: (406)496-9929  
 E-Mail: bill.telling@recsilicon.com

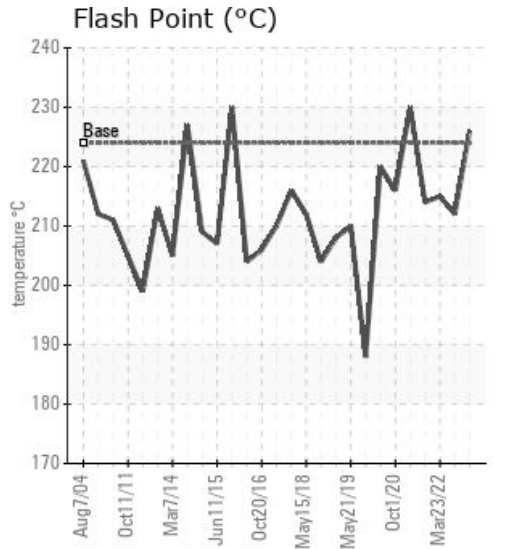
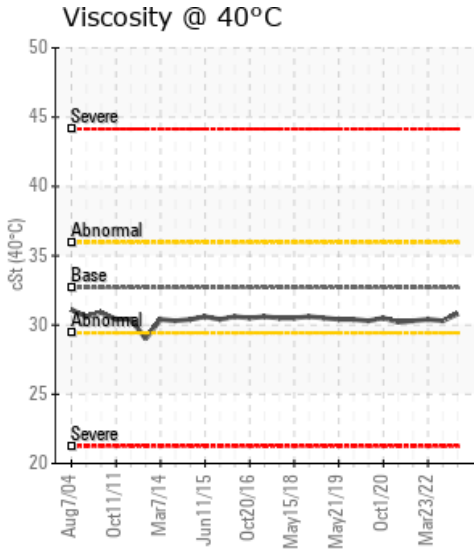
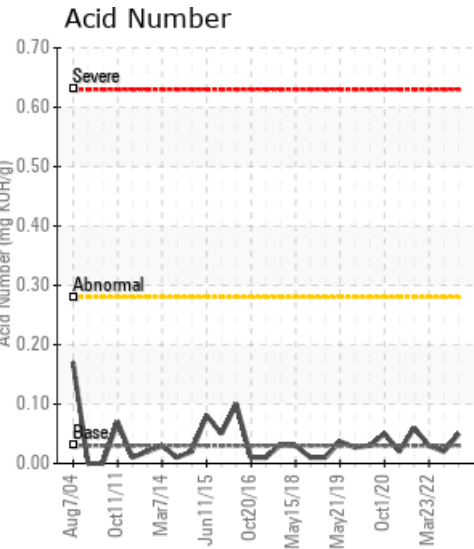
**System Information**  
 System Volume: 41640 gal  
 Bulk Operating Temp: 425F / 218C  
 Heating Source:  
 Blanket:  
 Fluid: PETRO CANADA CALFLO AF  
 Make: EXOTHERM

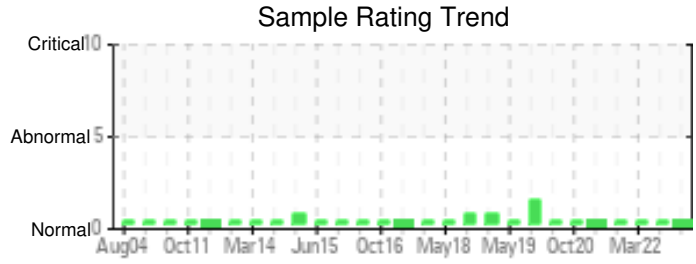
**Sample Information**  
 Lab No: 02556038  
 Analyst: Ron LeBlanc  
 Sample Date: 04/21/23  
 Received Date: 05/08/23  
 Completed: 05/10/23  
 Ron LeBlanc  
 Ronald.LeBlancSr@HFSinclair.com

Recommendation: Sample is normal and has no issues. Resample at next scheduled interval.

Comments:

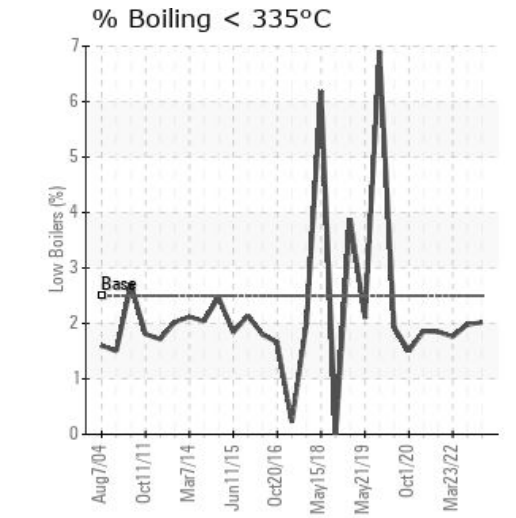
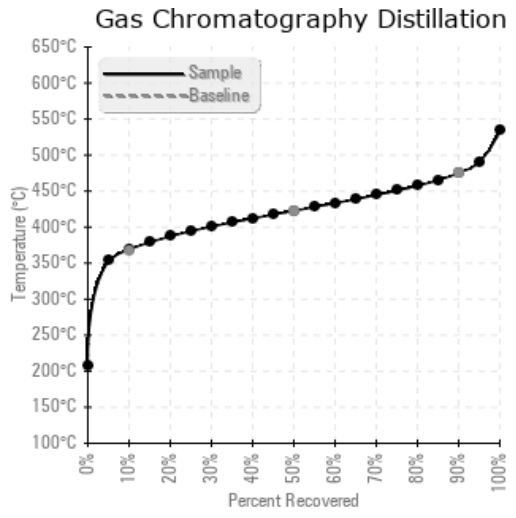
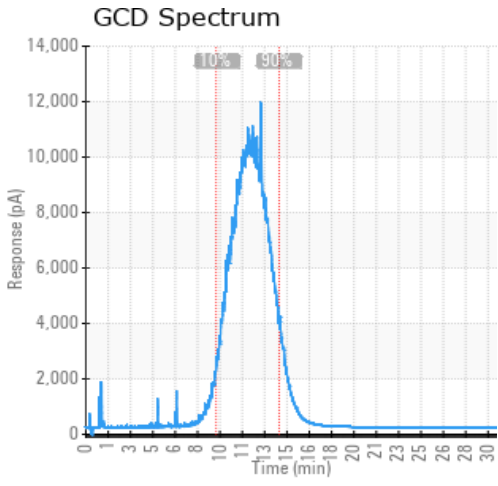
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/21/23	05/08/23	19.0y		439 / 226	24.8	30.8	0.05	0.042	696 / 369	793 / 423	887 / 475	2.02
11/02/22	11/15/22	18.0y	PUMP DISCHARGE	414 / 212	10.0	30.3	0.02	0.182	697 / 370	793 / 423	886 / 474	1.98
03/23/22	04/07/22	18.0y		419 / 215	0.00	30.4	0.03	0.021	697 / 369	793 / 423	889 / 476	1.76
10/29/21	11/17/21	17.0y	discharge of pump	417 / 214	22.4	30.3	0.06	0.071	696 / 369	791 / 422	885 / 474	1.85
03/25/21	04/07/21	16.0y		446 / 230	8.1	30.2	0.02	0.149	692 / 367	782 / 416	878 / 470	1.86
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
04/21/23	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	15	0
11/02/22	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
03/23/22	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0
10/29/21	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	14	0
03/25/21	9	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	12	0
<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	
11/02/22	Sample appears normal. No action required at this time. Resample at normal interval.
03/23/22	Sample Appears Normal. Re-sample in 6 months.
10/29/21	Sample appears normal. Sample at next regular interval.
03/25/21	Sample appears normal. Sample in 6 months.

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