

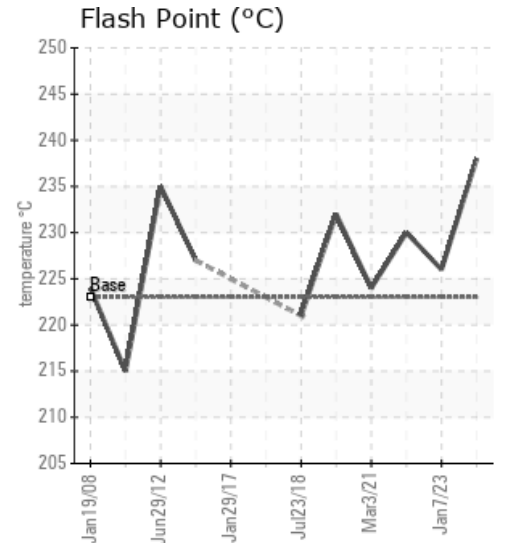
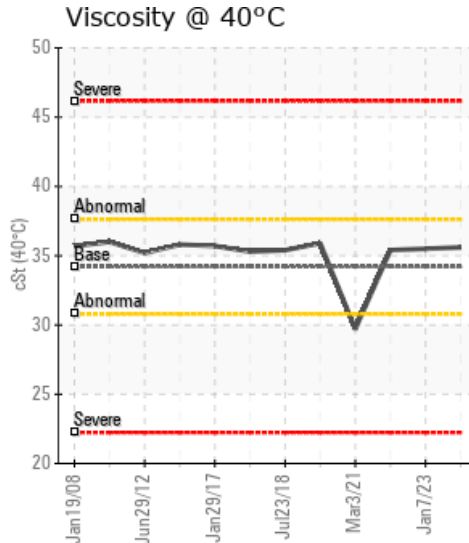
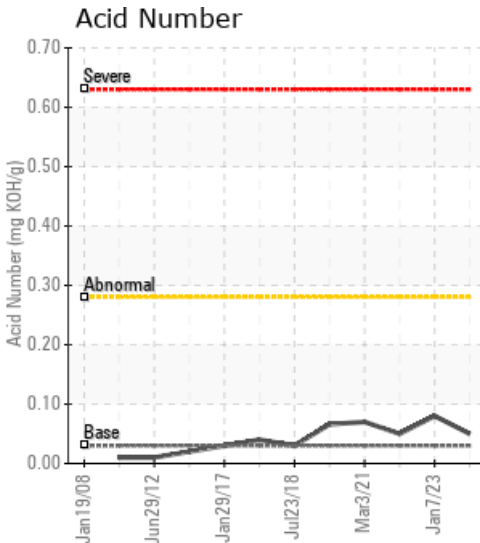
## EAST SYSTEM

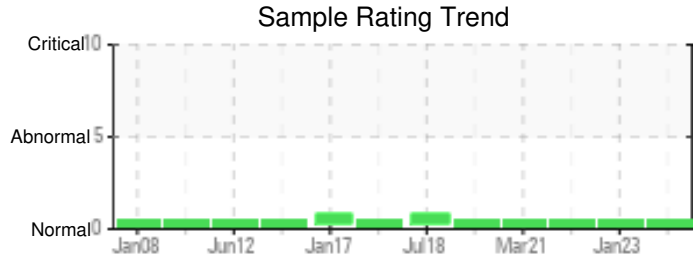
Customer: PTRHTF10182	System Information	Sample Information
American Cast Iron Pipe Co. 1501 31st Avenue North Birmingham, AL 35207 US Attn: Jeremy Mowry Tel: (205)325-7905 E-Mail: jmowry@american-usa.com	System Volume: 10000 gal Bulk Operating Temp: 470F / 243C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: KUTTNER	Lab No: 02606133 Analyst: Jake Finn Sample Date: 12/16/23 Received Date: 01/02/24 Completed: 01/05/24 Jake Finn jake.finn@HFSinclair.com

Recommendation: Sample appears to be in great condition and suitable for continued use. Please resubmit for testing in 12 months.

Comments: N/A

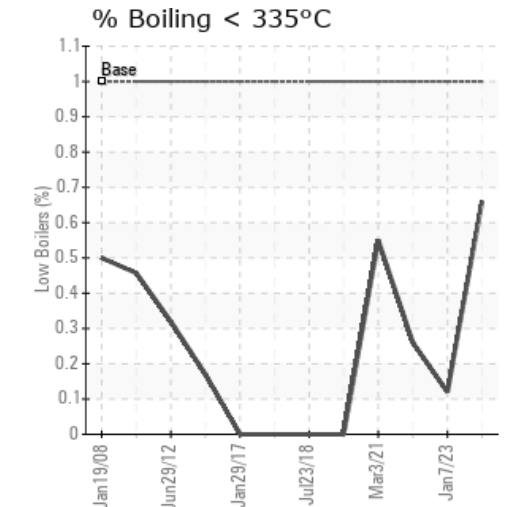
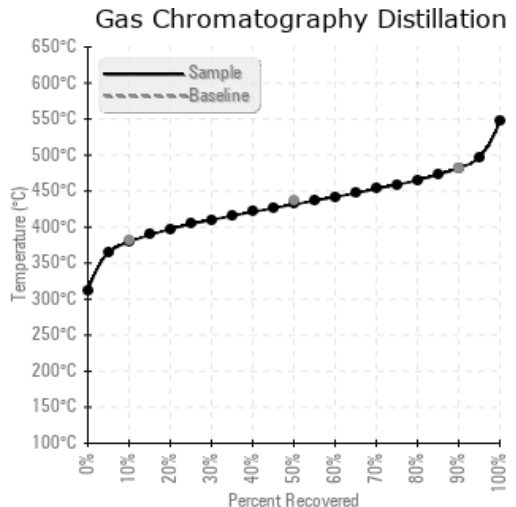
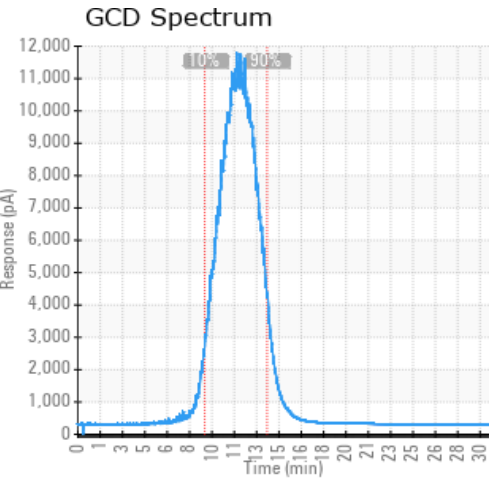
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
12/16/23	01/02/24	16.0y		460 / 238	26	35.6	0.05	0.047	714 / 379	809 / 431	899 / 482	0.66
01/07/23	02/06/23	15.0y		439 / 226	16.7	35.5	0.08	0.126	719 / 382	811 / 433	900 / 482	0.12
08/07/22	09/06/22	14.0y		446 / 230	25.7	35.4	0.05	0.042	719 / 382	810 / 432	899 / 482	0.26
03/03/21	05/06/21	13.0y	Pump outlet	435 / 224	11.6	29.7	0.07	0.042	712 / 378	797 / 425	902 / 483	0.55
01/16/20	02/03/20	12.0y		450 / 232	8.0	35.9	0.066	0.062	711 / 377	799 / 426	890 / 477	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	
12/16/23	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1
01/07/23	4	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	2
08/07/22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03/03/21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01/16/20	1	0	0	0	0	0	0	0	0	0	0	0	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	
01/07/23	Testing indicates the system fluid is in great condition. No significant signs of wear, contamination or fluid degradation at this time. There has been an increase in pentane insolubles, but still well within an acceptable range. Fluid is suitable for continued use, please resubmit for testing in 12 months for regular monitoring.N/A
08/07/22	Sample indicates no signs of wear, contamination or fluid degradation. This fluid is suitable for continued use, please resample and submit for testing in 12 months.N/A
03/03/21	Results indicate fluid is in excellent condition and is suitable for continued use. Please resubmit for testing in one year.N/A
01/16/20	Oil is suitable for continued use. Please resubmit for testing in 12 months.No abnormalities noted.

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