

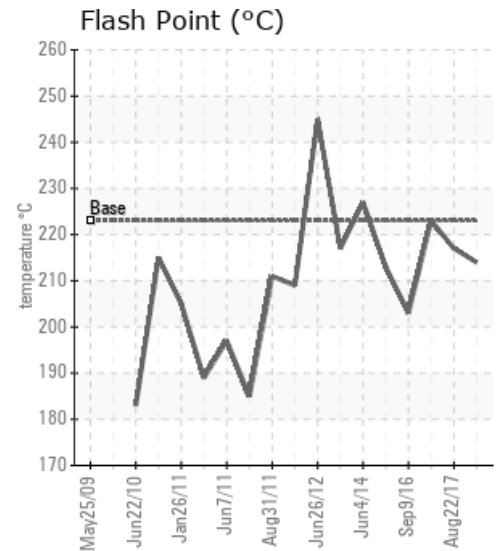
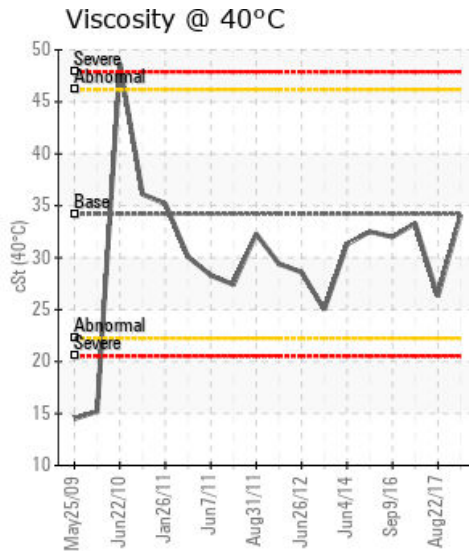
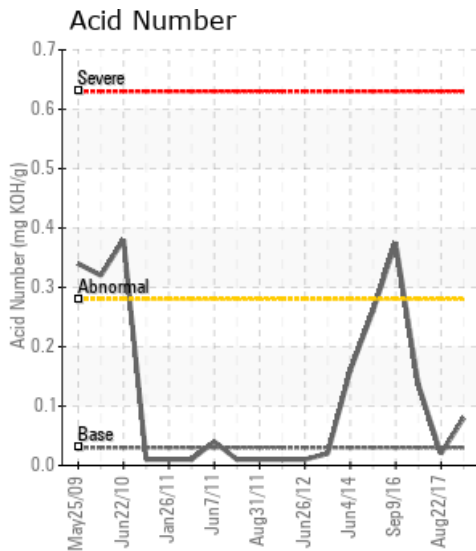
[TIDEWATER MIDSTREAM LSD / 11-33-45-8W5M] TRAIN A

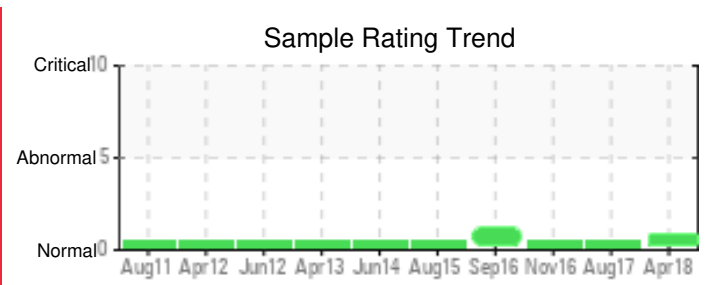
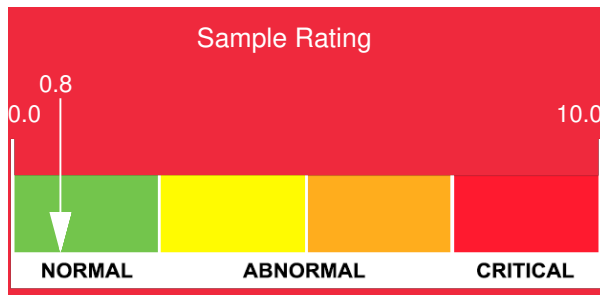
Customer: PTRHTF20006	System Information	Sample Information
Tidewater 21 Oxford Pl. Alder Flats, AB T0C 0A0 Canada Attn: Darren Muth Tel: (780)679-2462 E-Mail: dmuth@tidewatermidstream.com	System Volume: 6000 ltr Bulk Operating Temp: 266F / 130C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make:	Lab No: 02210657 Analyst: Terry Veenstra Sample Date: 04/10/18 Received Date: 04/18/18 Completed: 04/20/18 To discuss this report contact Terry Veenstra at (780)591-5339

Recommendation: GCD @ 90% is high indicating some heavier ends in sample likely caused by overheating of fluid. Otherwise oil is still in good shape. Continue to operate and resample in 6 - 8 months.

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

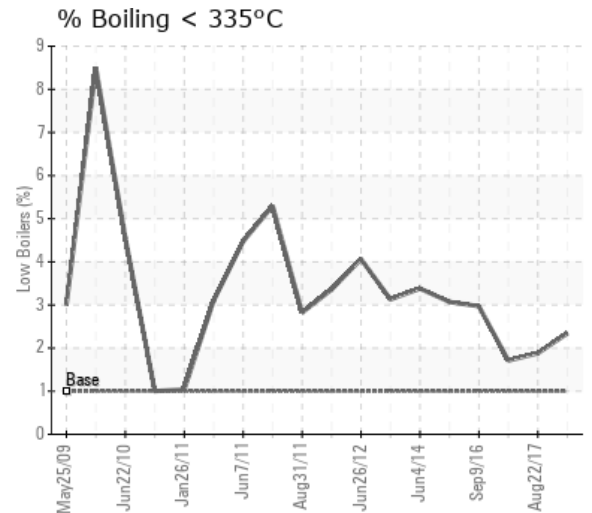
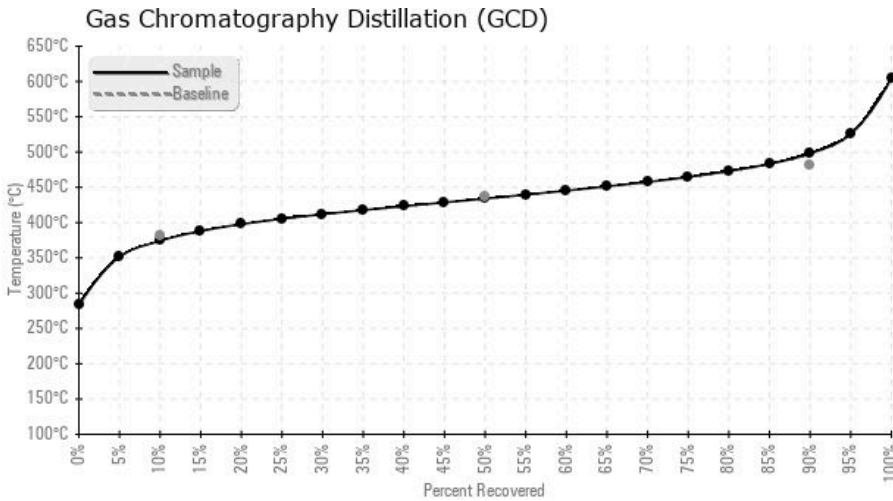
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
04/10/18	04/18/18	7y		417 / 214	8.1	34.1	0.08	0.251	705 / 374	813 / 434	928 / 498	2.34
08/22/17	08/28/17	7y	HEATER BATH	423 / 217	16.7	26.3	0.02	0.250	707 / 375	809 / 432	904 / 485	1.88
11/01/16	11/08/16	6y		433 / 223	184.4	33.3	0.137	0.107	708 / 376	811 / 433	909 / 487	1.71
09/09/16	09/14/16	6y	HEATER BATH	397 / 203	34.2	32.0	0.375	0.217	697 / 370	803 / 428	894 / 479	2.97
08/25/15	09/02/15	5y	HEATER BATH	415 / 213	54.6	32.5	0.26	0.138	696 / 369	806 / 430	902 / 484	3.07
06/04/14	06/12/14	4y	HEATER BATH	441 / 227	24.5	31.3	0.16	0.084	693 / 367	801 / 427	895 / 479	3.38
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
04/10/18	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08/22/17	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
11/01/16	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
09/09/16	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08/25/15	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
06/04/14	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	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	
08/22/17	Fluid condition continues to be very good. Very little change from the last sample Nov 2016. Continue to sample annually to proactively monitor fluid condition.
11/01/16	This oil sample look good. The oil is suitable for further use.
09/09/16	Acid number is higher than it should be however oil is good for continued use. Resample in 3 months. Acid Number (AN) is abnormally high.
08/25/15	Fluid condition remains very good. Continue with annual sample submissions to monitor fluid condition.
06/04/14	Fluid is in very good condition. Continue to submit fluid samples annually or if operating conditions change significantly to proactively manage the system.

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