

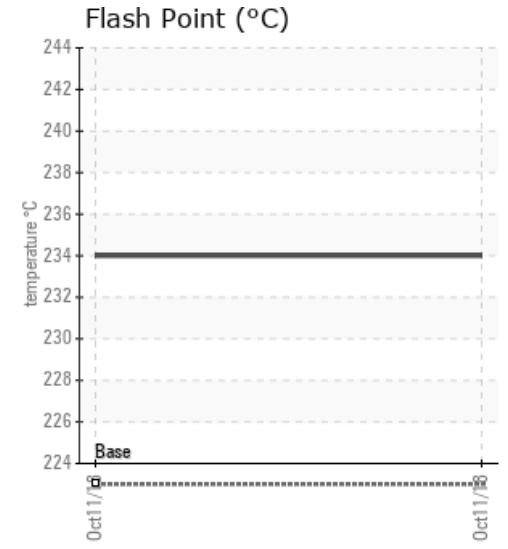
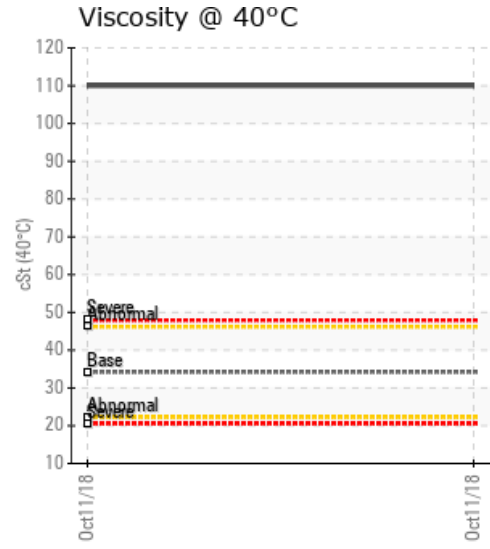
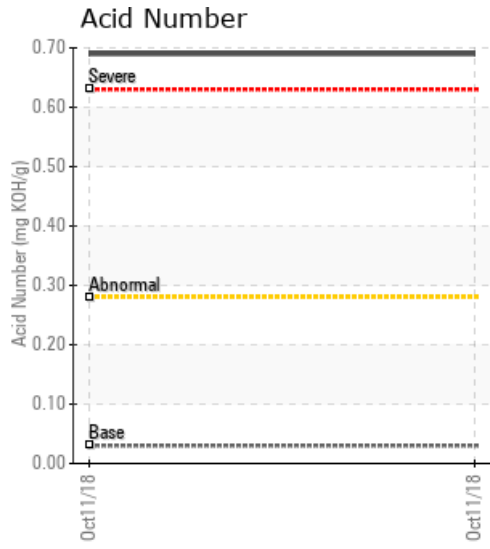
[KEYERA PARTNERSHIP / 3-12-46-14W5M] TOTE D

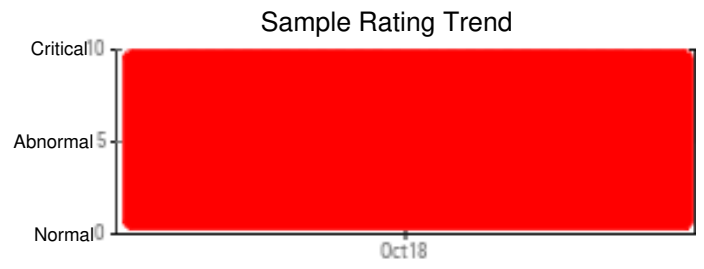
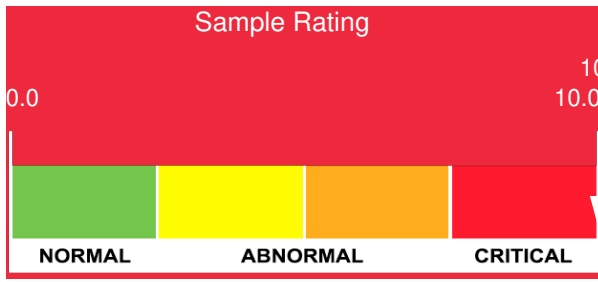
Customer: PTRHTF30084	System Information	Sample Information
Keyera Partnership Brazeau River Ga... Box 7318 Drayton Valley, AB T7A 1S5 Canada Attn: Don Renner Tel: (780)894-3601 E-Mail: don_renner@keyera.com	System Volume: 0 ltr Bulk Operating Temp: Not Specified Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make:	Lab No: 02245903 Analyst: Kevin McDermott Sample Date: 10/11/18 Received Date: 10/18/18 Completed: 10/22/18 Kevin McDermott kevin.mcdermott@hollyfrontier.com

Recommendation: Fluid is not suitable for use and should be disposed of - suspected contamination.

Comments: Acid Number (AN) is severely high. (GCD) 10% Distillation Point is severely high. (GCD) 50% Distillation Point is severely high. (GCD) 90% Distillation Point is severely high. Zinc ppm levels are severely high. Calcium ppm levels are severely high. Visc @ 40°C is severely high. Phosphorus and sulfur ppm levels are abnormal.

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	%
10/11/18	10/18/18	0.0y		453 / 234	216.0	110	0.69	0.052	829 / 443	899 / 482	987 / 530	4.08
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00

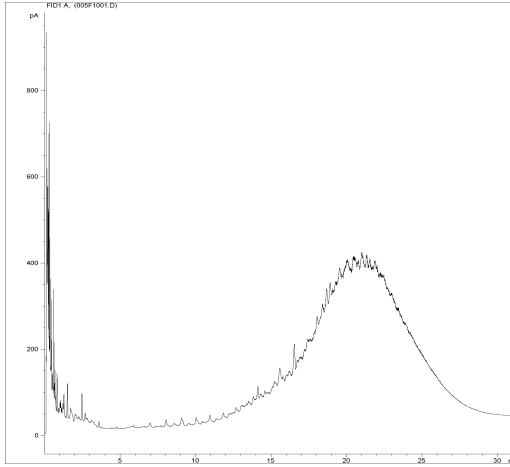




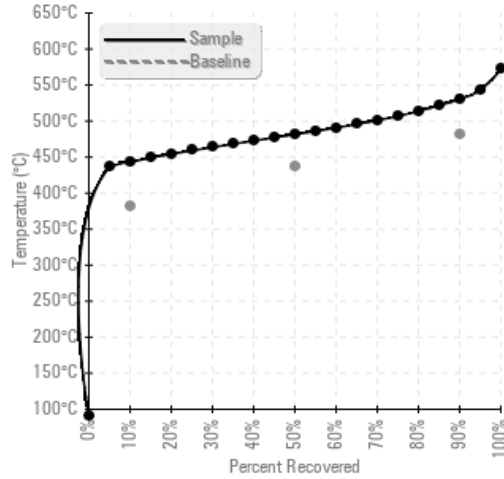
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
10/11/18	22	0	0	2	2	1	0	0	0	0	3	1	11	0	9	0	0	0	3	1	91	20	584	136
Baseline Data			0	0						0			0	0					0				0	

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

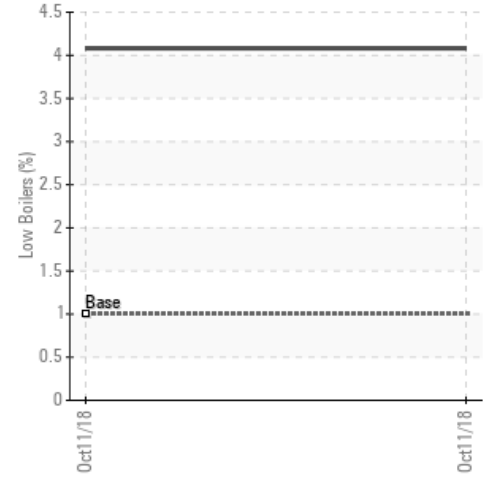
GCD Spectrum



Gas Chromatography Distillation



% Boiling < 335°C



Historical Comments

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