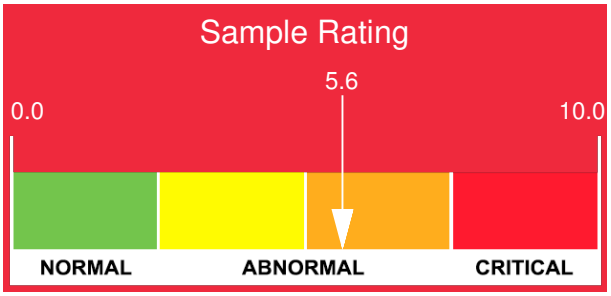
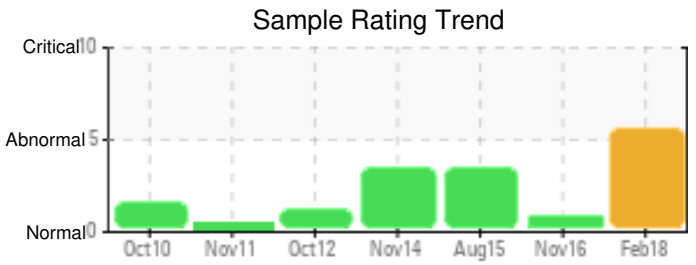




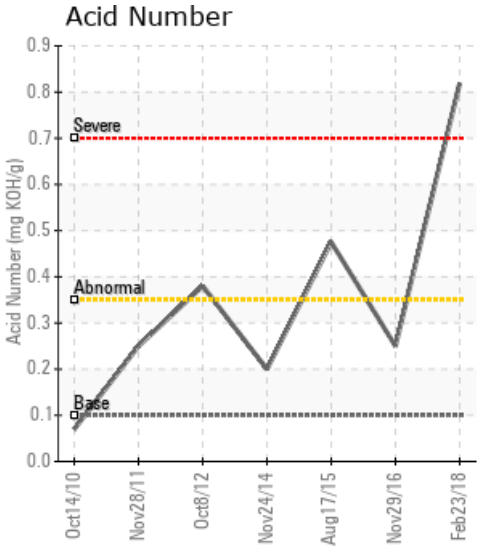
YONG SHUN PU U-4

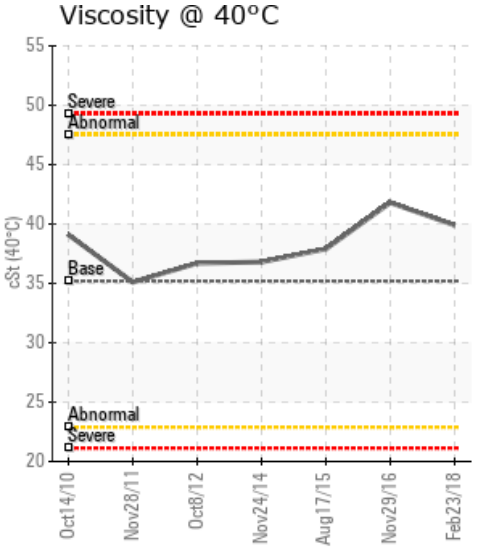
Customer: PTRHTF60007	System Information	Sample Information
CANADIAN RESOURCES INC 2F 71 CHONG CHING NORTH ROAD S C 3 TAIPEI, TAIWAN, PROVINC Attn: HUGO CHENG Tel: (886)225-853509 E-Mail: roychen1018@hotmail.com	System Volume: 5330 ltr Bulk Operating Temp: 419F / 215C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make:	Lab No: 02202458 Analyst: Yutong Gao Sample Date: 02/23/18 Received Date: 03/07/18 Completed: 03/10/18 To discuss this report contact Yutong Gao at (403)873-1876

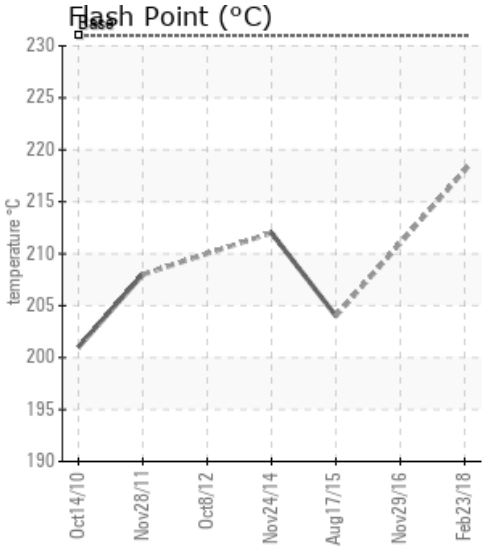
Recommendation: The current fluid has high viscosity, TAN and solid contents because of the severe oxidation. Please take one sample in 6 months to monitor the conditions. The fluid hours are not reported, which definitely limit our interpretation. Please inform Yutong Gao at Petro-Canada for the detailed fluid hours.

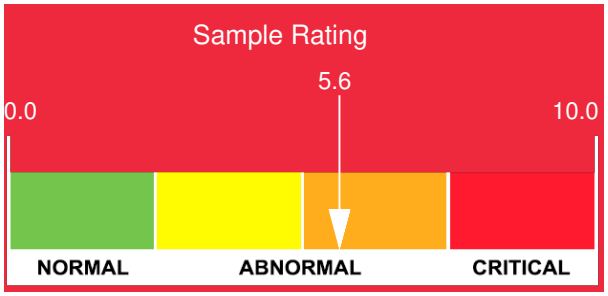
Comments:

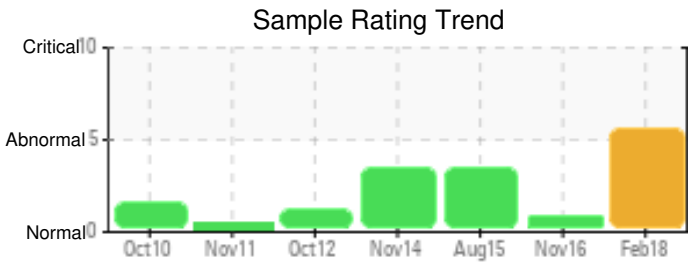
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/23/18	03/07/18	0h		424 / 218	43.0	39.9	0.819	0.902	685 / 363	782 / 416	882 / 472	0.00
11/29/16	12/08/16	0h			32.4	41.8	0.25		683 / 362	810 / 432	939 / 504	2.77
08/17/15	08/21/15	0h		399 / 204	26.9	37.9	0.475	0.446	688 / 365	813 / 434	923 / 495	2.23
11/24/14	11/28/14	0h	U-4	414 / 212	10.8	36.8	0.20	0.425	679 / 359	803 / 429	925 / 496	2.57
10/08/12	10/15/12		NA		25	36.7	0.38	0.319	668 / 354	798 / 425	907 / 486	3.026
11/28/11	12/09/11		NA	406 / 208	38	35.1	0.25	0.038	670 / 355	799 / 426	907 / 486	2.887
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75





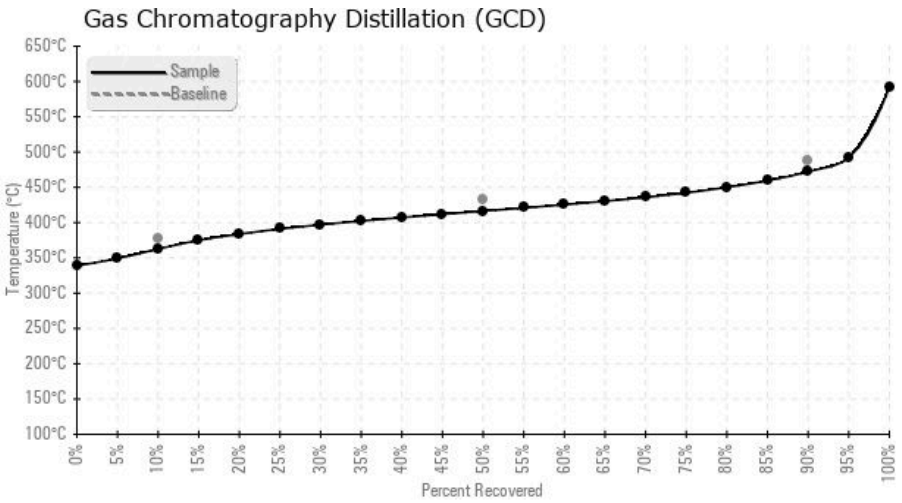


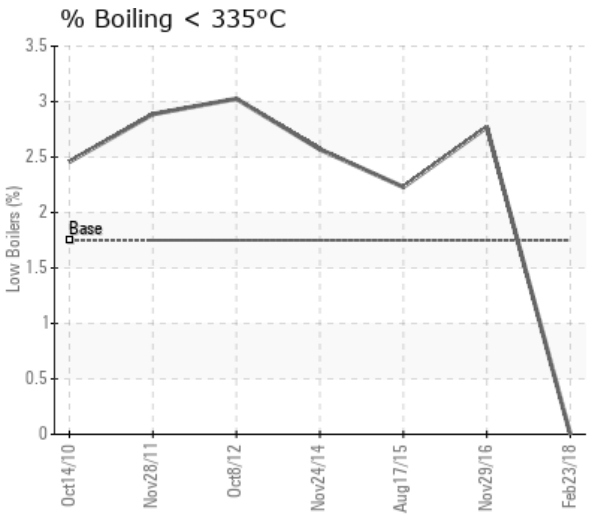




Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
02/23/18	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	116	0
11/29/16	13	0	0	1	0	0	0	4	0	0	3	0	1	0	0	0	0	0	0	0	4	0	112	2
08/17/15	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	115	0
11/24/14	8	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	125	0
10/08/12	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	60	4
11/28/11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	52	1
Baseline Data			0	0						0			0	0					0				280	

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





Historical Comments

11/29/16	Insufficient sample was received to conduct all the routine laboratory tests. The available test data show the current fluid has the moderate oxidation. But the fluid is OK for continual run and please take a sample in 12 months to monitor the conditions. Please remember to take about 600~700ml sample in the future.
08/17/15	The current fluid has normal viscosity, GCD and water. The higher TAN and Solid reading indicate a mild oxidation, but this fluid is suitable for further use. Please take one sample in one year to monitor the conditions. Please remember to provide the total fluid working hours when you send the future samples. Pentane Insolubles levels are abnormally high. Acid Number (AN) is abnormally high.
11/24/14	The current fluid has normal viscosity, TAN, GCD points and flash point. The high solid level might be due to the moderate oxidation. Normally, we need to know the fluid working hours to provide the comments, please take one sample in 6 months to monitor the conditions and provide the fluid working hours at the same time. Solid level is abnormally high.
10/08/12	The oil is showing advanced signs of oxidation through a high Total Acid Number (TAN). We suggest to replace 50% of this oil in a short time in order to keep running for a few more years. If this oil is let to run much longer the system will require a complete shut down to clean, flush and refill, which will be more costly than purchasnig a few hundred litres of fluid.
11/28/11	No time o noil was specified but it appears the oil condition improved, ether due to top-up with Calflo HTF or an oil replacement was performed. The fluid appears to be in acceptable condition and suitable for further use at this time.