

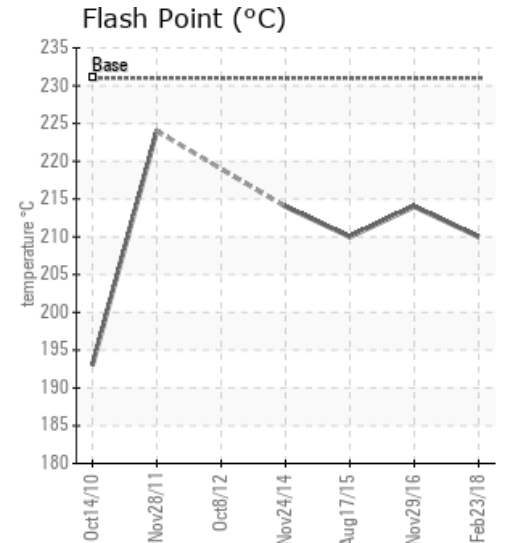
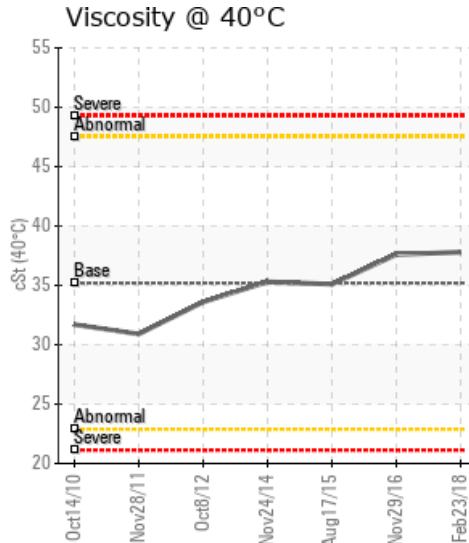
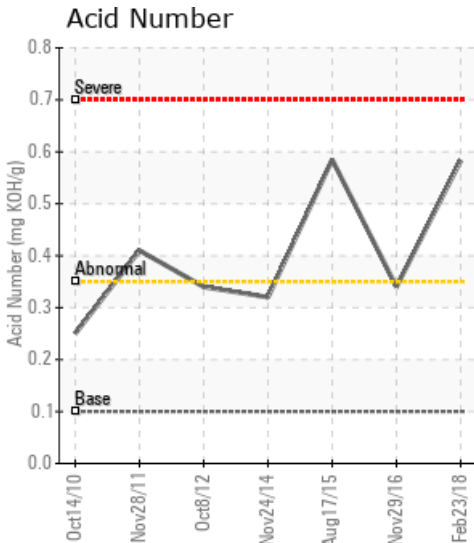
YONG SHUN PU U-5

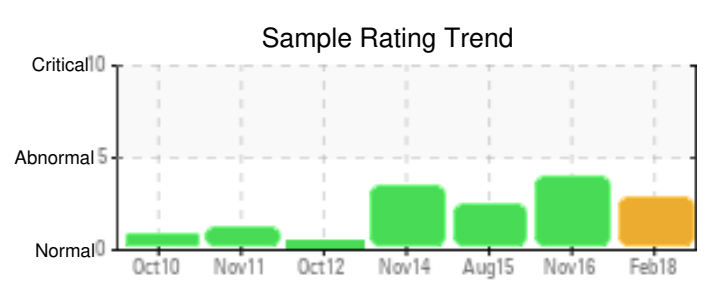
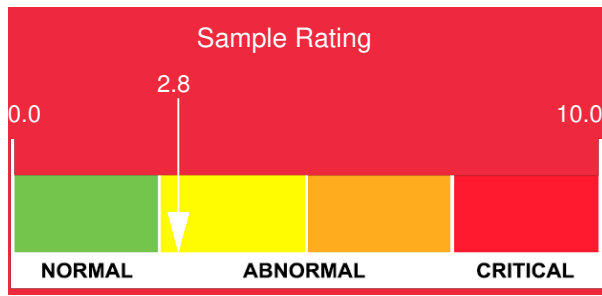
Customer: PTRHTF60007	System Information	Sample Information
CANADIAN RESOURCES INC 2F 71 CHONG CHING NORTH ROAD S C 3 TAIPEI, TAIWAN, PROVINC Attn: HUGO CHENG Tel: (886)225-853509 E-Mail: roychen1018@hotmail.com	System Volume: 6765 ltr Bulk Operating Temp: 419F / 215C Heating Source: Blanket: Fluid: PETRO CANADA CALFLO HTF Make:	Lab No: 02202459 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 moderate 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		410 / 210	23.5	37.8	0.583	0.760	659 / 348	775 / 413	899 / 482	0.00
11/29/16	12/08/16	0h		417 / 214	430.5	37.6	0.34	0.638	655 / 346	800 / 427	915 / 491	4.59
08/17/15	08/21/15	0h		410 / 210	43.8	35.1	0.585	0.359	659 / 349	806 / 430	920 / 493	3.80
11/24/14	11/28/14	0h	U-5	417 / 214	10.0	35.3	0.32	0.586	654 / 346	799 / 426	912 / 489	3.97
10/08/12	10/15/12		NA		43	33.6	0.34	0.334	647 / 341	780 / 416	897 / 481	4.705
11/28/11	12/09/11		NA	435 / 224	40	30.9	0.41	0.083	647 / 342	779 / 415	896 / 480	5.339
Baseline Data				448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75

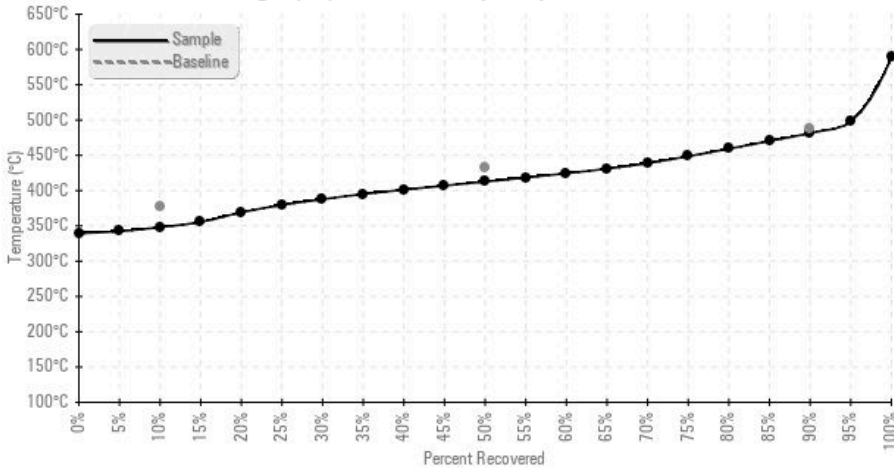




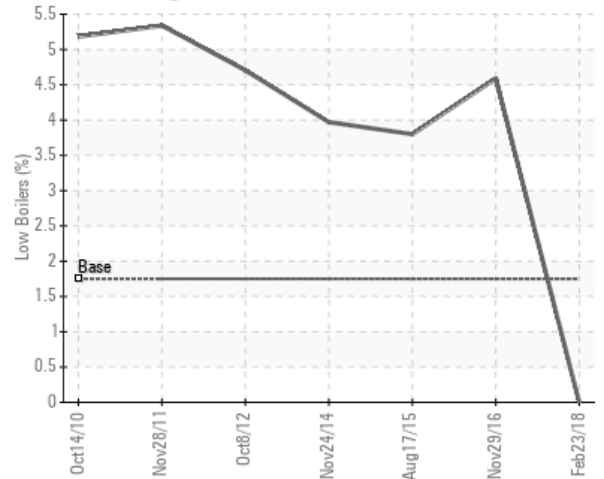
Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
02/23/18	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	69	0
11/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	80	0
08/17/15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89	0
11/24/14	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	95	0
10/08/12	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66	3
11/28/11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	57	1
Baseline Data			0	0						0			0	0					0				280	

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

Gas Chromatography Distillation (GCD)



% Boiling < 335°C



Historical Comments

11/29/16	The current fluid has adequate viscosity, flash point, acid number and distillation points. However, the water content is quite high, please double check the reason of the water contamination. The higher solid is because of the moderate fluid oxidation. The fluid is OK for continual run and please take a sample in 12 months to monitor the conditions.
08/17/15	The current fluid has normal viscosity, GCD, solid and water. The higher TAN reading indicates 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. Acid Number (AN) is abnormally high.
11/24/14	The current fluid has moderate oxidation and mild thermal cracking, but it is still suitable for the further use. Please take one sample in 3 months to monitor the conditions. Solid levels are severely high. (GCD) 10% Distillation Point is marginally low.
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 purchasing a few hundred litres of fluid.
11/28/11	The time on oil is not mentioned but the Total Acid Number (TAN) of this fluid is high and is approaching the condemning limit. We would suspect the viscosity to rise as a result of the fluid oxidizing but the thermal cracking reduces the viscosity which makes the viscosity look normal. We need to investigate why the fluid is oxidizing so rapidly, inquire about the fluid temperature in the expansion tank, etc. We need to start a dialogue with the customer to ensure they get a long life out of this fluid charge.