

YONG SHUN UP A-B

Customer: PTRHTF60007

CANADIAN RESOURCES INC 2F 71 CHONG CHING NORTH ROAD S

C 3

TAIPEI, TAIWAN, PROVINC

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System Information

System Volume: 7585 ltr

Bulk Operating Temp: 419F / 215C

Heating Source:

Blanket:

Fluid: PETRO CANADA CALFLO HTF

Make:

Sample Information

Lab No: 02202456 Analyst: Yutong Gao Sample Date: 02/23/18 Received Date: 03/07/18 Completed: 03/10/18

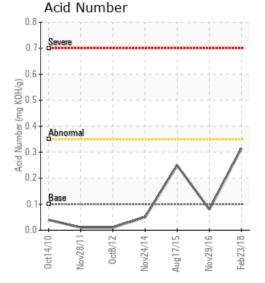
To discuss this report contact Yutong

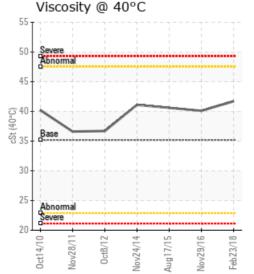
Gao at (403)873-1876

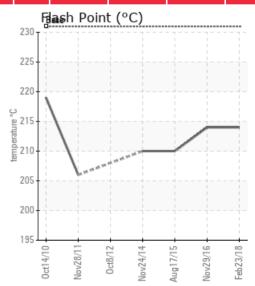
Recommendation: The current fluid had moderate oxidation. The viscosity and solid contents are all high. Please take one sample in 6 months to monitor the conditions. The fluid hours are not reported, which definitely limit our interpretation. Please inform Yutong Gao at Petro-Canada for the detailed 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		417 / 214	25.7	41.7	0.315	0.838	670 / 355	808 / 431	921 / 494	2.60
11/29/16	12/08/16	0h		417 / 214	80.6	40.1	80.0	0.070	665 / 352	808 / 431	930 / 499	3.64
08/17/15	08/21/15	0h		410 / 210	30.5	40.6	0.249	0.353	684 / 362	805 / 429	904 / 484	0.13
11/24/14	11/28/14	0h	UP-A,B	410 / 210	9.6	41.1	0.05	0.768	657 / 347	798 / 426	924 / 496	4.27
10/08/12	10/15/12		NA		676	36.7	0.01	0.293	657 / 347	795 / 424	926 / 497	4.151
11/28/11	12/09/11		NA	403 / 206	30	36.6	0.01	0.092	659 / 349	793 / 423	906 / 486	4.275
		Baseline	Data	448 / 231		35.20	.1		712 / 378	810 / 432	910 / 488	1.75

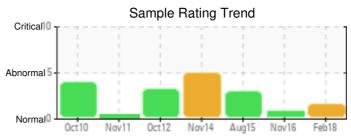






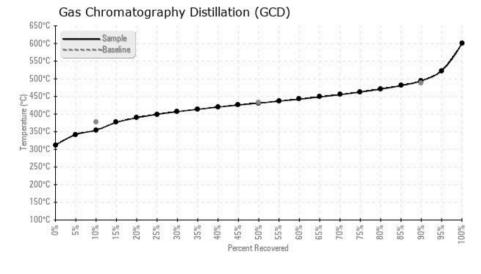


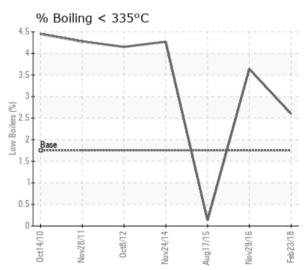




Sample Date	lron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
02/23/18	1	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	54	1
11/29/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	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	53	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	55	0
10/08/12	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	37	3
11/28/11	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	3	0	38	3
Baseline Data			0	0						0			0	0					0				280	

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





	Historical Comments
11/29/16	The current fluid has adequate flash point, acid number, distillation points, water and the solid content. 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 TAN, GCD, solid and water. The higher viscosity might be from a mild oxidation or a heavier oil top up, 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. Visc @ 40°C 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. Visc @ 40°C is abnormally high. (GCD) 10% Distillation Point is marginally low.
10/08/12	The oil condition is normal and no actions need to be taken at this time. Resample at next scheduled interval.
11/28/11	The results indicate the oil appears to be in great condition. Nothing abnormal to point out. The Calflo HTF appears to be suitable for further use. Please contact your technical representative if operational issues that may be related to the fluid are experienced. Re-sample in about 6 to 9 months.

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