

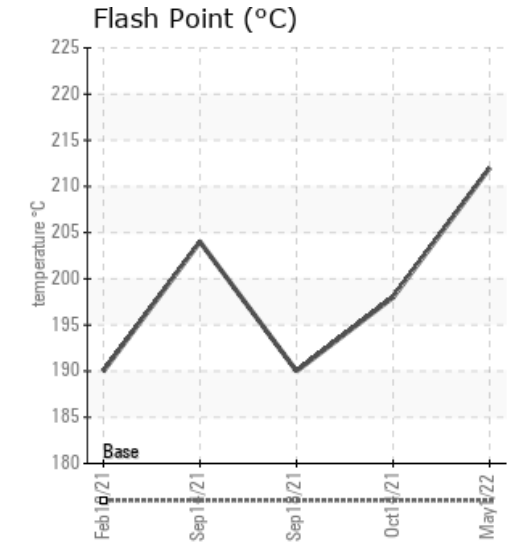
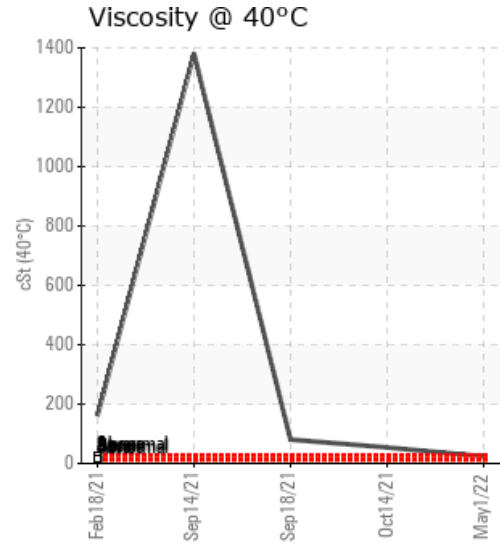
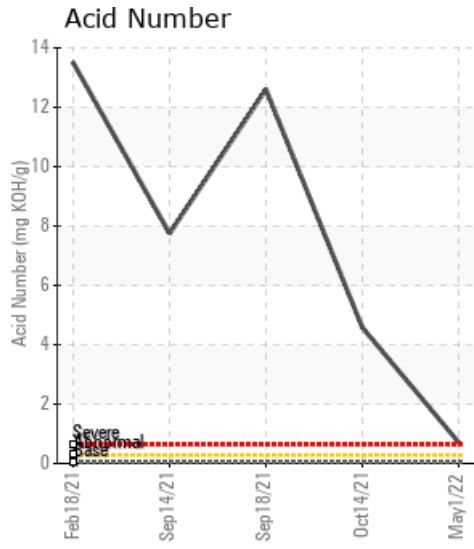
PAPIOCA DEVELOPMENT CORP

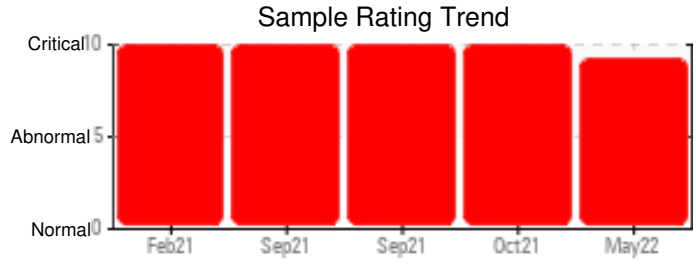
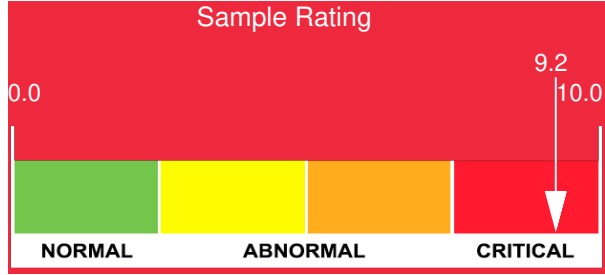
Customer: PTRHTF60010	System Information	Sample Information
SYNLUBE INTERNATIONAL CO LTD 76/1 MOO.7 THACHIN MUANG SAMUTSAKHON, 74000 THAILAND Attn: CHERNPORN CHOBKUI Tel: 034421290 E-Mail: chernporn@synlube.co.th	System Volume: 6500 ltr Bulk Operating Temp: 302F / 150C Heating Source: Blanket: Fluid: EASTMAN THERMINOL 55 Make: SCHERRER	Lab No: 02490270 Analyst: Bill Quesnel CLS,OMA II,MLA-III,LLA-I Sample Date: 05/01/22 Received Date: 05/24/22 Completed: 05/27/22 Bill Quesnel CLS,OMA II,MLA-III,LLA-I

Recommendation: We can see that there was a near complete fluid change, however, the system still has high pentane insoluble, acid number (AN). The viscosity has been restored close to the original value, so the heating efficiency should improve dramatically. Recommend that you resample in six (6) months to monitor.

Comments: Iron ppm levels are abnormal. Pentane Insolubles levels are severely high. Acid Number (AN) is severely high. (GCD) 10% Distillation Point is severely high. (GCD) 90% Distillation Point is abnormally high. COC Flash Point is marginally high.

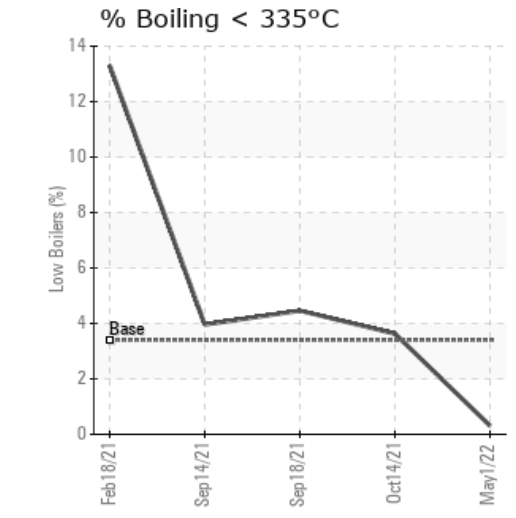
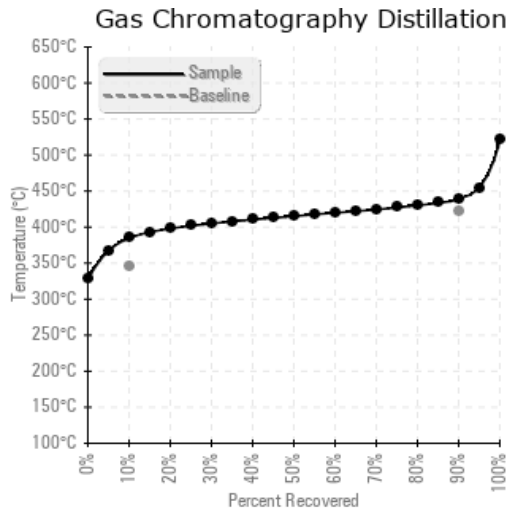
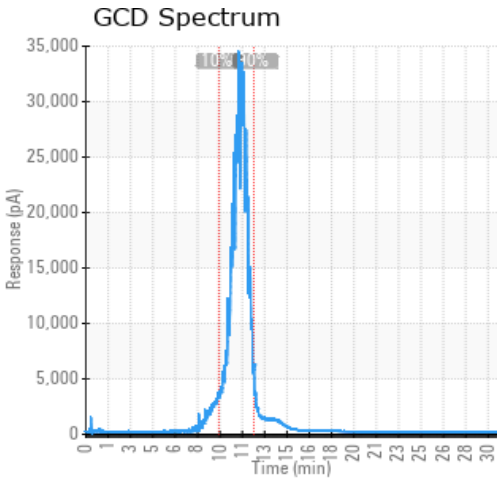
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
05/01/22	05/24/22	0.3y		414 / 212	71.1	23.9	0.71	0.729	724 / 385	779 / 415	822 / 439	0.31
10/14/21	10/28/21	22.0y		388 / 198	348.6	54.0	4.58	5.92	653 / 345	715 / 380	839 / 449	3.63
09/18/21	11/02/21	0.1y	FILTER NO 8	374 / 190	479.9	80.5	12.6	3.73	651 / 344	702 / 372	785 / 419	4.46
09/14/21	11/02/21	22.0y	FILTER NO 8	399 / 204	294.1	1381	7.75	7.21	655 / 346	716 / 380	854 / 457	3.96
02/18/21	02/26/21	21.0y	Return	374 / 190	65881.1	161	13.5	9.88	602 / 317	698 / 370	802 / 428	13.30
Baseline Data				349 / 176		19.0	0.03		655 / 346		790 / 421	3.40





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
05/01/22	313	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	1
10/14/21	2486	4	0	0	3	0	0	0	0	0	3	0	0	0	0	0	6	0	2	0	2	0	54	8
09/18/21	5032	9	1	1	4	0	0	0	0	0	4	0	1	0	0	0	12	0	4	0	4	0	0	16
09/14/21	2051	4	0	0	2	0	0	0	0	0	2	0	0	0	0	0	5	0	2	0	2	0	50	6
02/18/21	1883	2	0	0	2	0	0	0	0	0	3	1	2	0	0	0	8	0	6	0	4	0	0	6
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

10/14/21	This is not a Petro-Canada Lubricants product, however, as can clearly be seen there needs to be an immediate fluid change, part of which must be a clean and flush. Acidity is extremely high, as is the water content, viscosity and insoluble matter. There is also visible debris which clearly shows a breakdown in the system. As part of the change there needs to be an investigation into what has happened to prevent recurrence. It also provides opportunity to move to a product such as CALFLO AF, but in order to best recommend a Petro-Canada product we would need system conditions. In summary, you must do an oil change including clean and flush. Replace with Petro-Canada CALFLO product, and investigate the source of the water and the metal debris in the oiliron ppm levels are severe. PQ levels are severe. Water contamination levels are severely high. Water contamination levels are severely high. ppm Water contamination levels are severely high. Pentane Insolubles levels are severely high. Acid Number (AN) is severely high. Visc @ 40°C is severely high. (GCD) % < 335°C is marginally high.
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02/18/21	This is not a Petro-Canada Lubricants product, however, as can clearly be seen there needs to be an immediate fluid change, part of which must be a clean and flush. Acidity is extremely high, as is the water content, viscosity and insoluble matter. There is also visible debris which clearly shows a breakdown in the system. As part of the change there needs to be an investigation into what has happened to prevent recurrence. It also provides opportunity to move to a product such as CALFLO AF, but in order to best recommend a Petro-Canada product we would need system conditions. In summary, you must do an oil change including clean and flush. Replace with Petro-Canada CALFLO product, and investigate the source of the water and the metal debris in the oiliron ppm levels are severe. PQ levels are severe. Water contamination levels are severely high. Water contamination levels are severely high. ppm Water contamination levels are severely high. Pentane Insolubles levels are severely high. Acid Number (AN) is severely high. Visc @ 40°C is severely high. (GCD) % < 335°C is marginally high.

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