

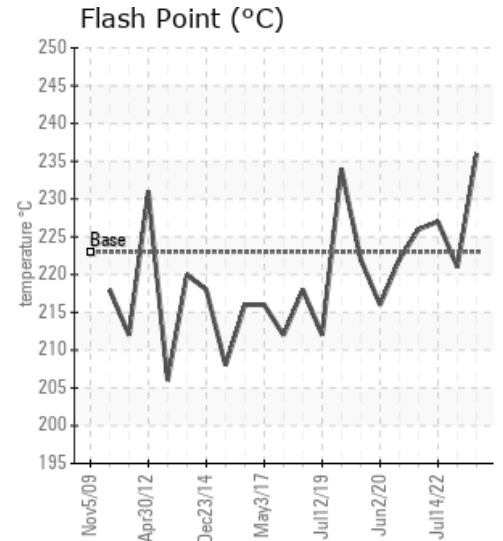
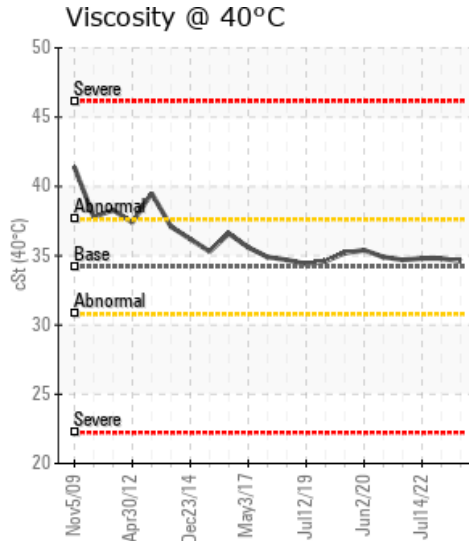
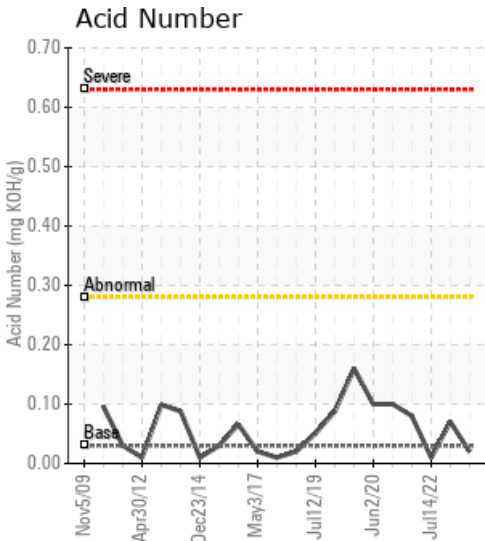
CLEAVER BROOKS (BOILER ROOM)

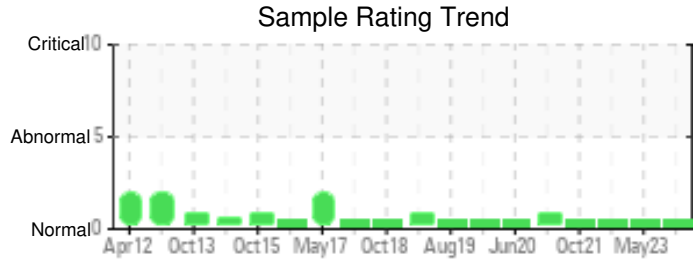
Customer: PTRHTF30020	System Information	Sample Information
IKO INDUSTRIES HAWKESBURY 1451 SPENCE ROAD HI-PARTS-HAWK YARD HAWKESBURY, ON K6A 3T4 CA Attn: Adam Aubry Tel: E-Mail: adam.aubry@iko.com	System Volume: 10000 ltr Bulk Operating Temp: 491F / 255C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: CLEAVER BROOKS	Lab No: 02617273 Analyst: Behshad Sabah Sample Date: 02/12/24 Received Date: 02/21/24 Completed: 02/26/24 Behshad Sabah behshad.sabah@HFSinclair.com

Recommendation: oil is good condition. no actions to take. please take a sample next year. thanks

Comments:

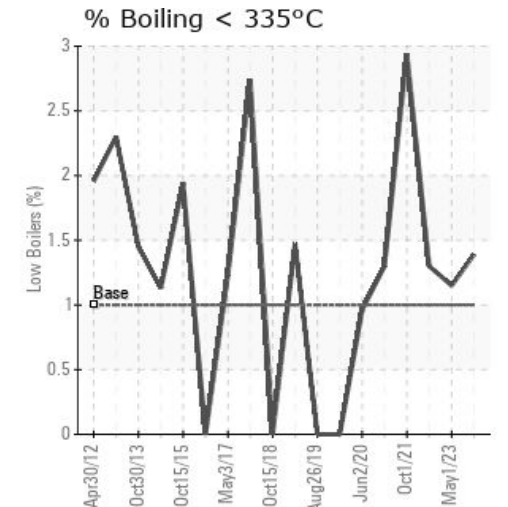
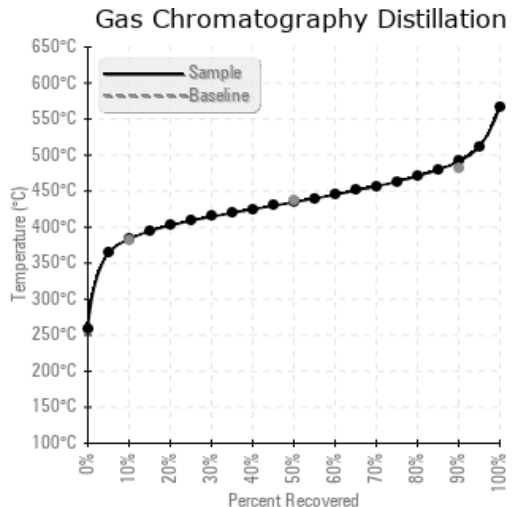
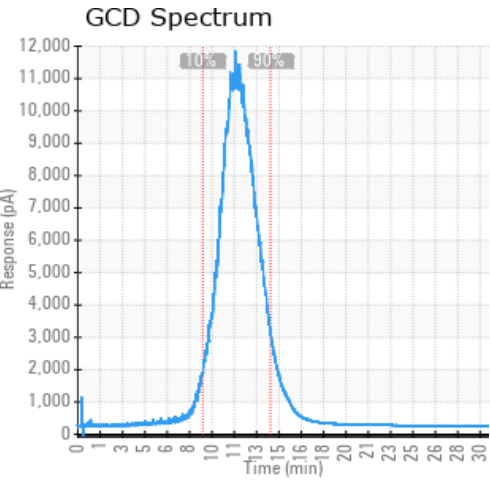
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
02/12/24	02/21/24	14.0y		457 / 236	11	34.6	0.02	0.069	722 / 383	814 / 435	916 / 491	1.39
05/01/23	05/02/23	13.0y		430 / 221	10.5	34.8	0.07	0.034	724 / 384	814 / 434	910 / 488	1.15
07/14/22	07/21/22	12.0y		441 / 227	24.4	34.8	0.01	0.054	725 / 385	816 / 436	916 / 491	1.30
10/01/21	10/20/21	11.0y		439 / 226	26.6	34.7	0.08	0.076	713 / 379	814 / 434	917 / 492	2.94
01/19/21	01/22/21	11.0y		432 / 222	3.3	34.9	0.10	0.127	722 / 383	816 / 436	920 / 493	1.30
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
02/12/24	7	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0
05/01/23	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07/14/22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/01/21	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
01/19/21	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	
05/01/23	o presence of wear, no presence of contamination in sample, sample is correct. Viscosity and AN (acid number) are good. COC flash point is good. GCD 10% and GCD 90% are good. Pentanes insolubles are good. The oil condition is good. Please keep monitoring the oil.
07/14/22	Routine monitoring. No action needed at this time.
10/01/21	Elemental Analysis is OK, FE = 3 ppm, max = 99. The Water is ok, 27 ppm, max = 350 ppm. The Acid Number is ok at 0.08 and maximum is 0.29, for fresh oil we have <0.1. The Viscosity @ 40C is ok. A result to 34.7 cSt and a fresh oil is 35.8 cSt. decrease by 3.0%. The COC flash point is ok. A result to 226 C and a fresh oil is 225 C. The insolubles or solids (%W) is good. A result to 0.076 and the maximum is 0.29. The GCD % 10% is ok and GCD 90% is a severity yellow, we will check for the next analysis, to do in one year. The graphic GCD is a good shape and we have not a large volume of low boiler and high boiler. Continue operation.
01/19/21	The high boilers (GCD@90%) are high, The oil is OK, for continuous use. (GCD) 90% Distillation Point is marginally high.

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