

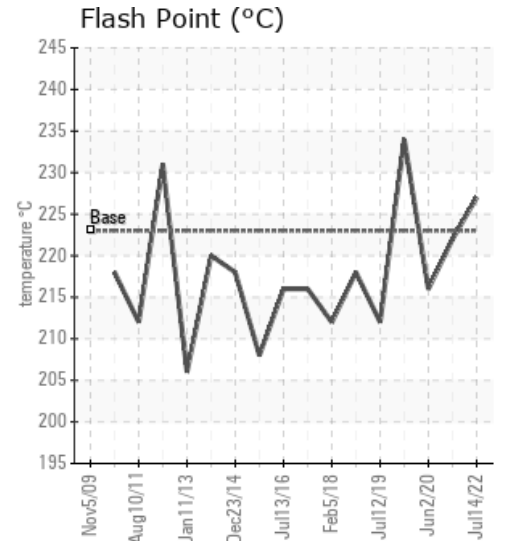
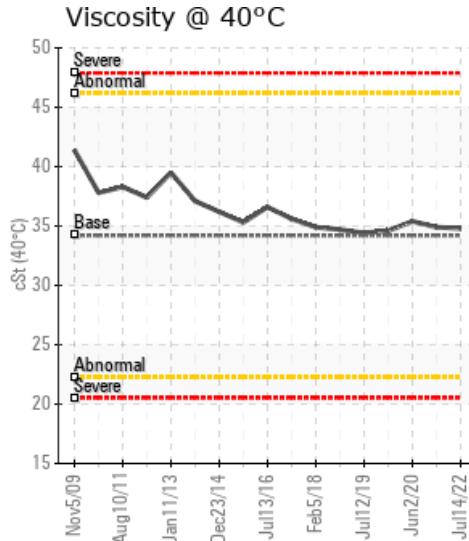
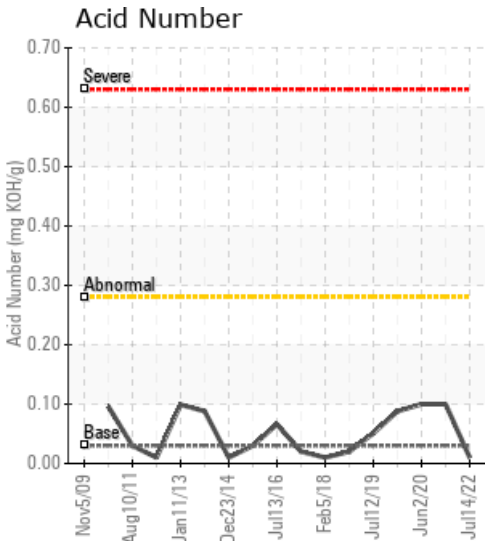
CLEAVER BROOKS (SURGE TANK SAMPLE)

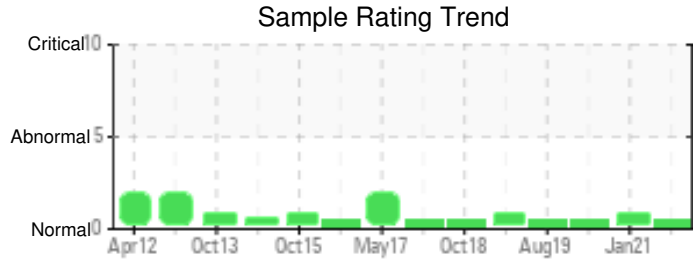
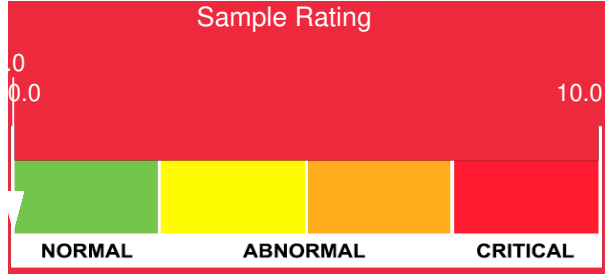
Customer: PTRHTF30020	System Information	Sample Information
IKO INDUSTRIES HAWKESBURY 1451 SPENCE ROAD HI-PARTS-HAWK YARD HAWKESBURY, ON K6A 3T4 Canada Attn: Adam Aubry Tel: E-Mail: adam.aubry@iko.com	System Volume: 10000 ltr Bulk Operating Temp: 491F / 255C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: CLEAVER BROOKS	Lab No: 02501222 Analyst: Yen Garcia Sample Date: 07/14/22 Received Date: 07/21/22 Completed: 07/25/22 Yen Garcia yen.garcia@hollyfrontier.com

Recommendation: Routine monitoring. No action needed at this time.

Comments:

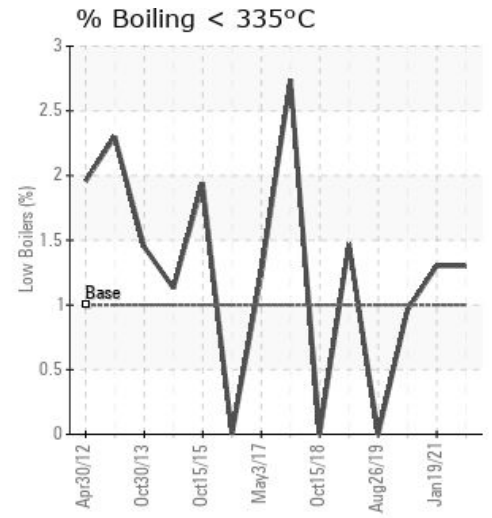
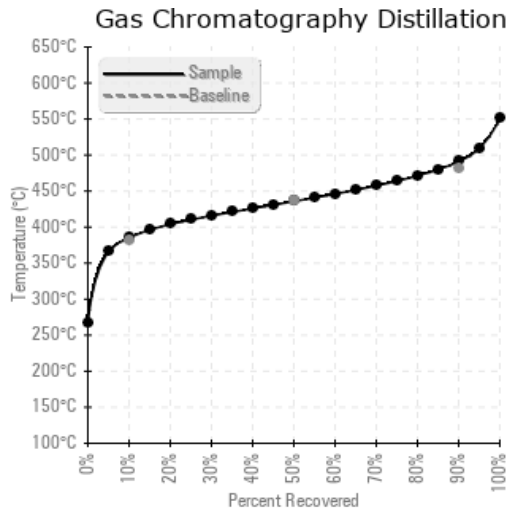
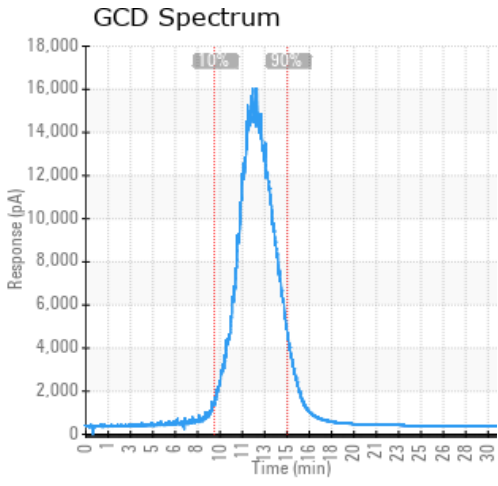
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
07/14/22	07/21/22	12.0y		441 / 227	24.4	34.8	0.01	0.054	725 / 385	816 / 436	916 / 491	1.30
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
06/02/20	06/11/20	10.0y	HOT OIL SYSTEM	421 / 216	18.6	35.4	0.10	0.081	725 / 385	817 / 436	914 / 490	0.96
08/26/19	09/09/19	10.0y		453 / 234	10.8	34.6	0.088	0.124	711 / 377	795 / 424	890 / 477	0.00
07/12/19	07/18/19	10.0y		414 / 212	23.2	34.4	0.051	0.076	714 / 379	810 / 432	920 / 493	1.47
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
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
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
06/02/20	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08/26/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07/12/19	3	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

01/19/21	The high boilers (GCD@90%) are high, The oil is OK, for continuous use. (GCD) 90% Distillation Point is marginally high.
06/02/20	OK, for continuous use.
08/26/19	We can see a very small trace of bitumen in the sample. The oil, is OK for continuous use, resample at the next sample date.
07/12/19	You have some carbon buildup (GCD@90%) are high. (GCD) 90% Distillation Point is marginally high.

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