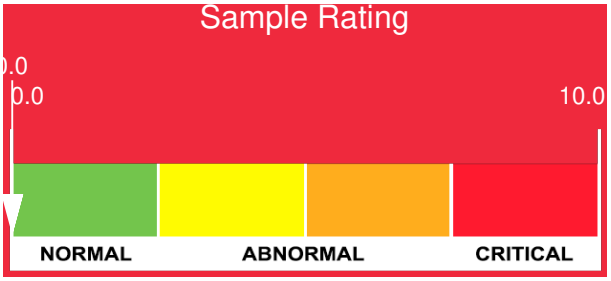
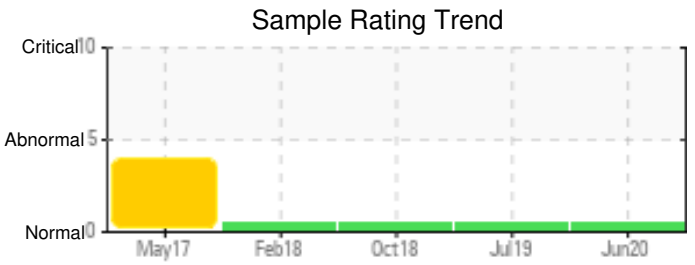




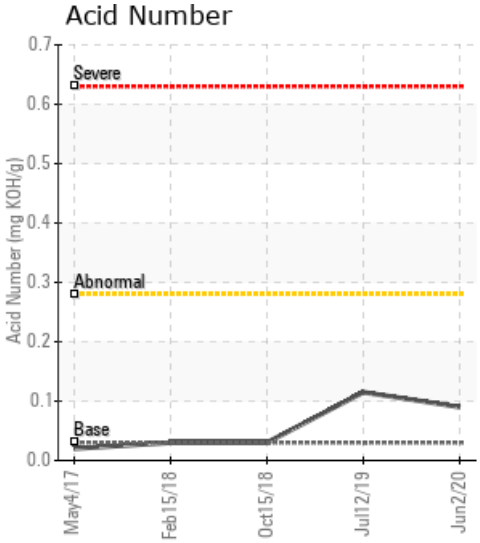
VAPOR POWER

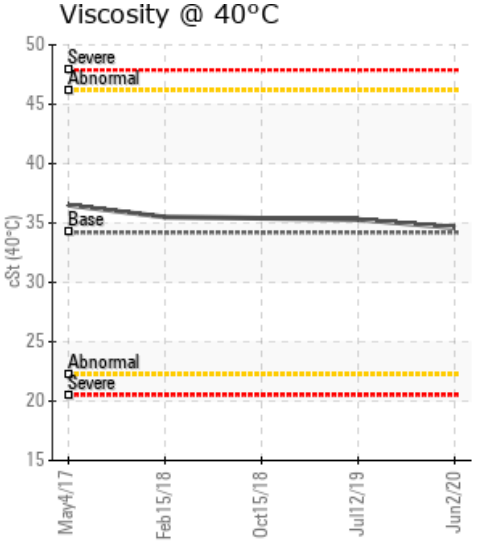
Customer: PTRHTF30020	System Information	Sample Information
IKO INDUSTRIES HAWKESBURY 1451 SPENCE ROAD HI-PARTS-HAWK YARD HAWKESBURY, ON K6A 3T4 Canada Attn: Roy Paquette Tel: (613)632-8581 E-Mail: roy.paquette@iko.com	System Volume: 600 gal Bulk Operating Temp: 500F / 260C Heating Source: Blanket: Fluid: PETRO CANADA PETRO-THERM Make: VAPOR POWER	Lab No: 02359041 Analyst: Pierre Castagne Sample Date: 06/02/20 Received Date: 06/11/20 Completed: 06/22/20 Pierre Castagne pierre.castagne@petrocanadalsp.com

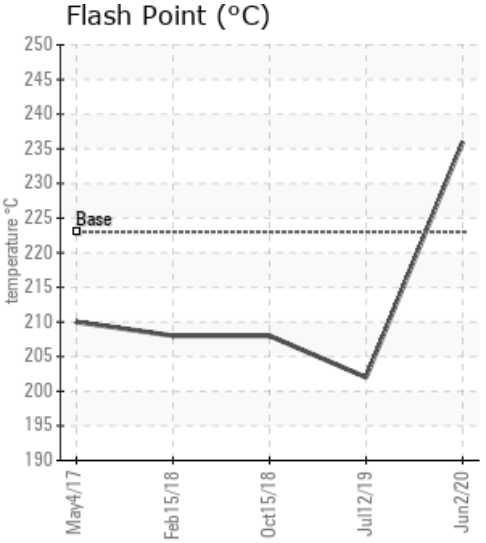
Recommendation: Ok for continuous use

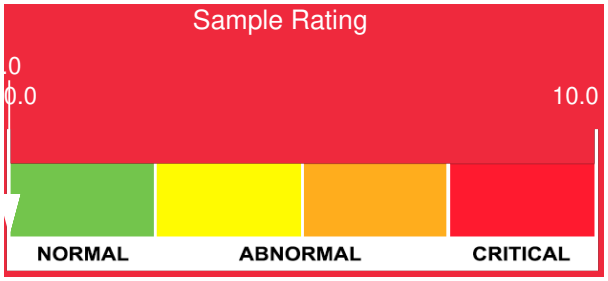
Comments:

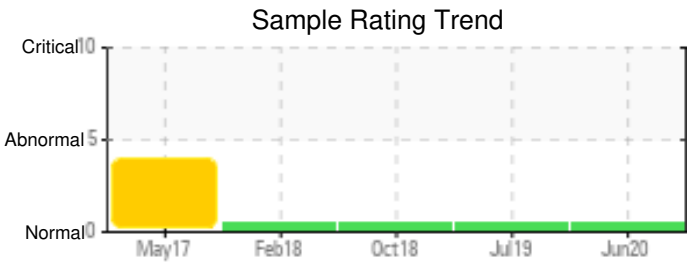
Sample Date	Received Date	Fluid Age	Sample Location	Flash Point (COC)	Water (KF)	Viscosity (40°C)	Acid Number	Solids	GCD 10%	GCD 50%	GCD 90%	GCD % < 335°C
	mm/dd/yy			°F/°C	ppm	cSt	mg/KOH/g	%wt	°F/°C	°F/°C	°F/°C	%
06/02/20	06/11/20	3y	HOT OIL BOILER	457 / 236	12.3	34.6	0.09	0.119	723 / 384	816 / 436	915 / 491	1.30
07/12/19	07/18/19	1y		396 / 202	23.2	35.3	0.115	0.164	707 / 375	804 / 429	915 / 491	0.84
10/15/18	10/18/18	3y		406 / 208	16.2	35.4	0.03	0.040	726 / 385	805 / 429	909 / 487	0.00
02/15/18	02/22/18	243y		406 / 208	5.3	35.5	0.03	0.038	705 / 374	809 / 432	917 / 492	2.68
05/04/17	05/11/17	1y	HOT OIL BOILER	410 / 210	18.9	36.5	0.02	0.069	712 / 378	814 / 434	937 / 503	1.31
Baseline Data				433 / 223		34.2	0.03		720 / 382	817 / 436	900 / 482	1.00





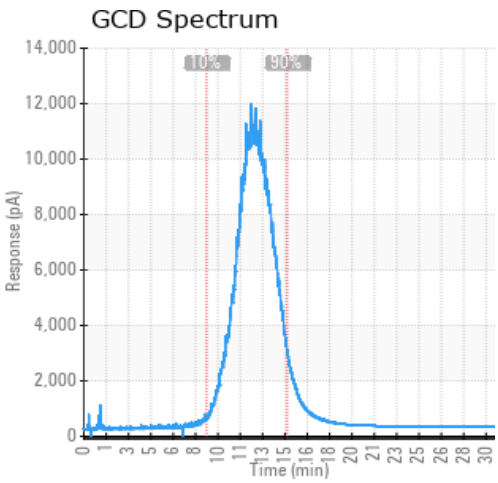


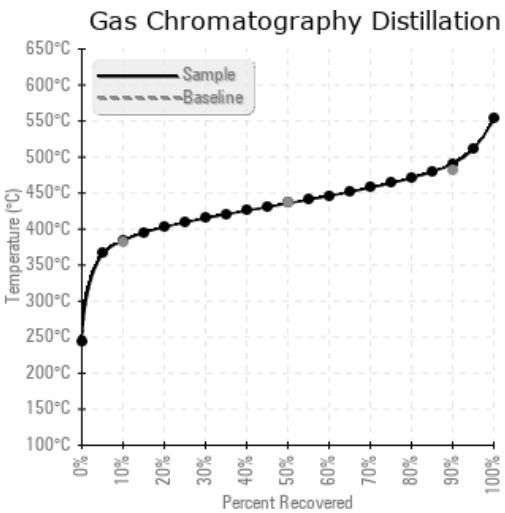


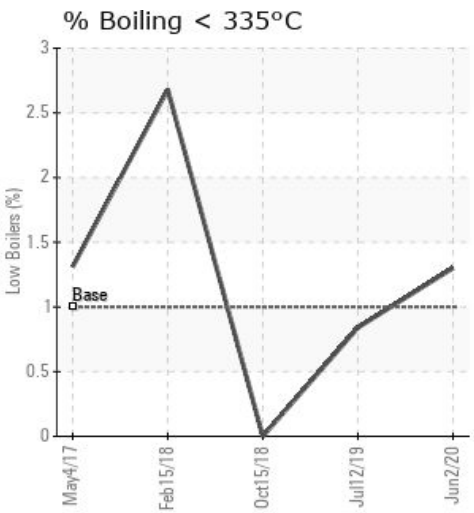


Sample Date	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
06/02/20	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
07/12/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0
10/15/18	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
02/15/18	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
05/04/17	11	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	18	0	0	0
Baseline Data			0	0						0			0	0					0				0	

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







Historical Comments

07/12/19	You have some carbon buildup (GCD @90%) is high.
10/15/18	Le fluide caloporteur est normal
02/15/18	High boilers (GCD @ 90%) increase viscosity, as a result carbon deposit settle in low flow/disturbance areas and foul heat exchange surfaces. Looking at the curve, it appears that a low viscosity oil mixture has occurred.
05/04/17	The sample has trace of Vanadium, the Low boilers GCD @10% are within specification (this could be the result of topping-up the oil) although the flash point is lower than the Petro-Therm oil specification (210°C versus 225°C specification),this suggests some oil craking is taking place. The High boilers GCD @ 90% are higher than the specification; this normally causes the viscosity of the oil to increase and carbon deposits. (GCD) 90% Distillation Point is severely high.