

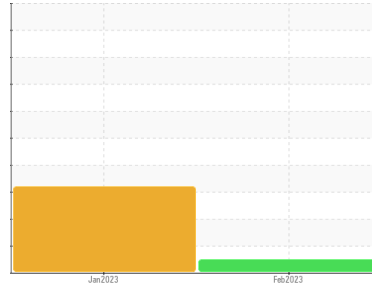


OIL ANALYSIS REPORT



Area
DUOKING CONSTRUCTION [02537684]
 Machine Id
JOHN DEERE 850KLGD 2053 (S/N 1T0850KXCHF308598)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 68 (260 LTR)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Échantillonner de nouveau l'équipement au prochain intervalle de vidange afin d'en surveiller la condition.

Wear

Les taux d'usure de tous les composants sont normaux.

Contamination

Il y a une faible concentration (<5.0%) d'huile minérale présente dans le fluide. La propreté du système est acceptable pour votre objectif de propreté ISO 4406. La teneur en eau est négligeable. La propreté du système et du fluide est acceptable.

Fluid Condition

Le AN est acceptable pour ce fluide. L'état de l'huile permet d'en prolonger l'utilisation.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC	WC	---
Sample Date	Client Info		01 Feb 2023	13 Jan 2023	---
Machine Age	hrs	Client Info	0	5073	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	N/A	---
Sample Status			NORMAL	SEVERE	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>23	0	<1
Chromium	ppm	ASTM D5185(m)	>9	0	0
Nickel	ppm	ASTM D5185(m)	>5	0	<1
Titanium	ppm	ASTM D5185(m)		2	3
Silver	ppm	ASTM D5185(m)		0	0
Aluminum	ppm	ASTM D5185(m)	>9	<1	<1
Lead	ppm	ASTM D5185(m)	>28	0	0
Copper	ppm	ASTM D5185(m)	>51	0	0
Tin	ppm	ASTM D5185(m)	>5	0	0
Antimony	ppm	ASTM D5185(m)		0	<1
Vanadium	ppm	ASTM D5185(m)		0	0
Beryllium	ppm	ASTM D5185(m)		0	0
Cadmium	ppm	ASTM D5185(m)		0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<1	1
Barium	ppm	ASTM D5185(m)	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m)	0	0	<1
Calcium	ppm	ASTM D5185(m)	0	0	0
Phosphorus	ppm	ASTM D5185(m)	1800	1494	1527
Zinc	ppm	ASTM D5185(m)	0	<1	9
Sulfur	ppm	ASTM D5185(m)	1450	465	▲ 484
Lithium	ppm	ASTM D5185(m)		<1	<1

CONTAMINANTS

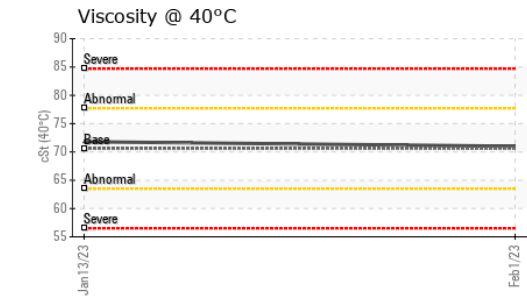
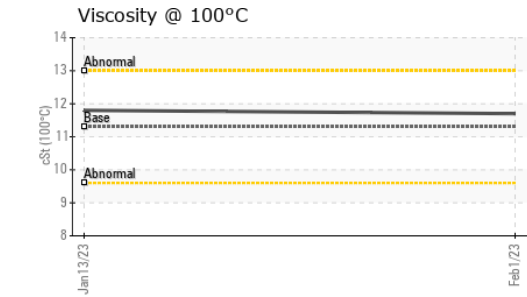
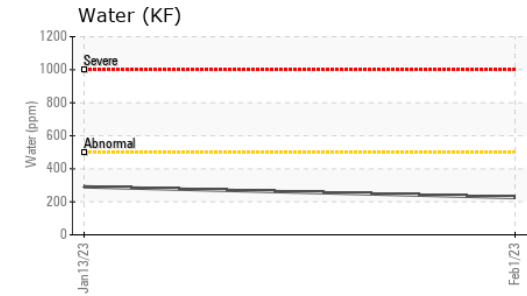
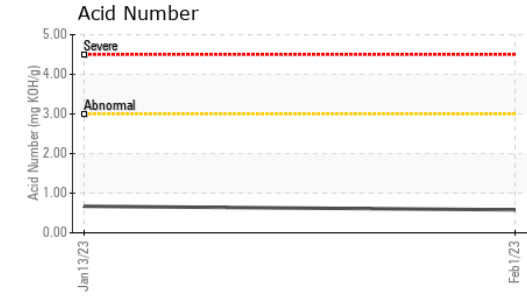
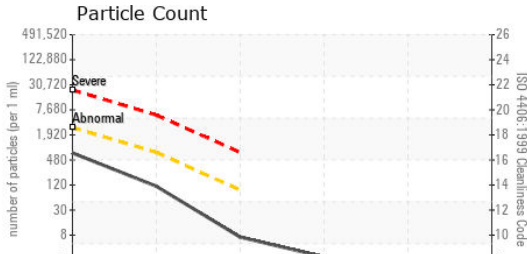
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>31	<1	<1
Sodium	ppm	ASTM D5185(m)	>21	1	2
Potassium	ppm	ASTM D5185(m)	>20	0	0
Water	%	ASTM D6304*	>0.05	0.022	0.029
ppm Water	ppm	ASTM D6304*	>500	226.1	291.0

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		0	0
Nitration	Abs/cm	ASTM D7624*		3.7	3.7
Sulfation	Abs/.1mm	ASTM D7415*		157.6	137.1
Mineral Oil Content	%	ASTM D7418*	<5.0%	<5.0	● 10.3



OIL ANALYSIS REPORT



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	621	▲ 3527	---
Particles >6µm	ASTM D7647	>640	99	329	---
Particles >14µm	ASTM D7647	>80	6	17	---
Particles >21µm	ASTM D7647	>20	2	5	---
Particles >38µm	ASTM D7647	>4	0	0	---
Particles >71µm	ASTM D7647	>3	0	0	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	16/14/10	▲ 19/16/11	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	167.9	156.6	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.58	0.67	---

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	---
Emulsified Water	scalar	Visual*	NEG	NEG	---
Free Water	scalar	Visual*	NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	70.6	71.0	71.8
Visc @ 100°C	cSt	ASTM D7279(m)	11.3	11.7	11.8
Viscosity Index (VI)	Scale	ASTM D2270*	153	160	160

SAMPLE IMAGES	method	limit/base	current	history1	history2	
Color						no image
Bottom						no image



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : **02537685**
Unique Number : 5526685
Test Package : MOB 2 (Additional Tests: TAN Man)

Envirolin Canada
 520 rue Adanac
 Quebec, QC
 CA G1C 7B7
 Contact: Patrick Levesque
 patrick.levesque@envirolin.com
 T: (418)623-1216
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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.



MINERAL OIL CONTENT REPORT

PASS



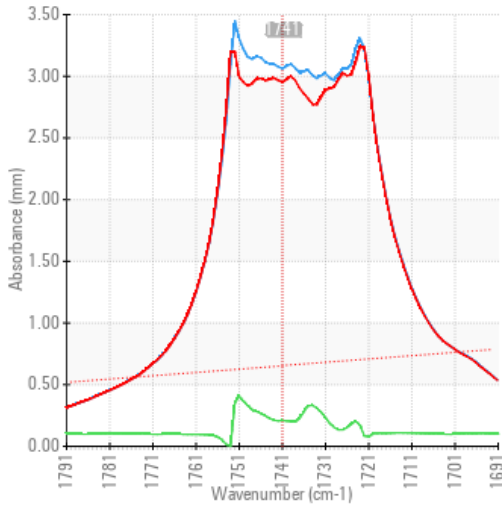
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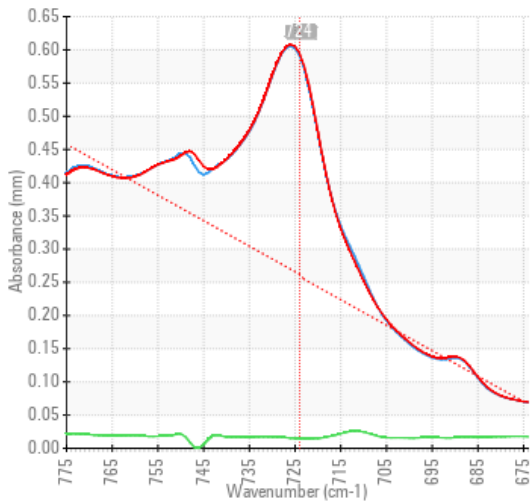
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	<1	9	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	<5.0	10.3	---

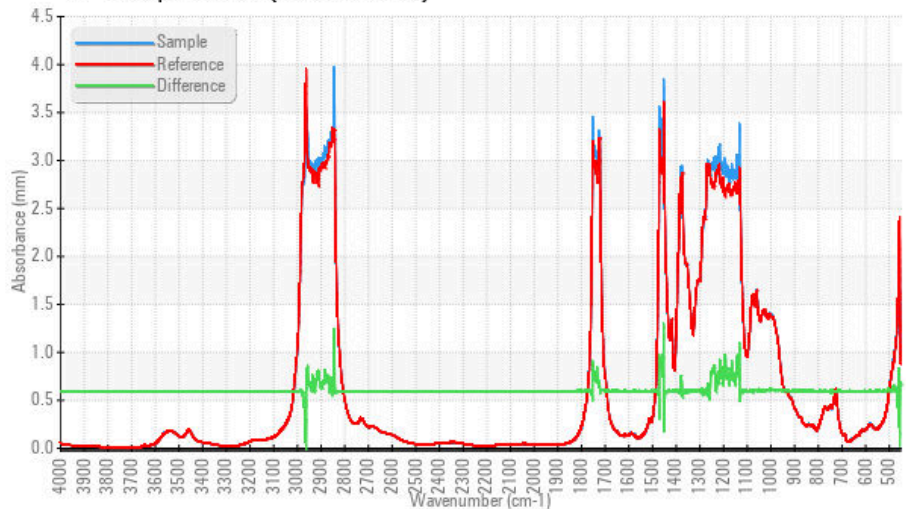
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



ISO 17025:2017
 Accredited
 Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : 02537685
Unique Number : 5526685
Test Package : MOB 2 (Additional Tests: TAN Man)

Received : 06 Feb 2023
Diagnosed : 07 Feb 2023
Diagnostician : Bill Quesnel

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