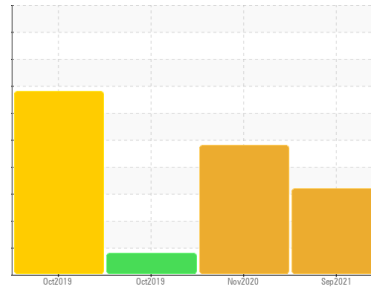




OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Area
EQUIPMENTS LAFONTAINE INC [02445999]
 Machine Id
VOLVO EC480DL 210444
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (525 LTR)

DIAGNOSIS

Recommendation

L'indice d'acidité (AN) indique que votre fluide a atteint la fin de sa vie utile, veuillez procéder à un changement d'huile complet.

Wear

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

Contamination

Il n'y a pas d'huile minérale présente dans le fluide. La propreté du système est acceptable pour votre objectif de propreté ISO 4406. La propreté du système et du fluide est acceptable.

Fluid Condition

Le niveau élevé de AN de l'huile indique la présence de produits oxypolymérisants. Le niveau de AN est beaucoup plus élevé que la limite recommandée. l'huile ne peut plus être utilisée.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC	WC	WC
Sample Date	Client Info		27 Sep 2021	25 Nov 2020	16 Oct 2019
Machine Age	hrs	Client Info	9697	8404	7108
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			SEVERE	SEVERE	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.05	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>25	10	15	<1
Chromium	ppm	ASTM D5185(m)	>10	7	<1	<1
Nickel	ppm	ASTM D5185(m)	>10	<1	<1	0
Titanium	ppm	ASTM D5185(m)		<1	<1	<1
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	0
Lead	ppm	ASTM D5185(m)	>20	<1	<1	0
Copper	ppm	ASTM D5185(m)	>150	2	4	<1
Tin	ppm	ASTM D5185(m)		<1	<1	0
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	2	3	<1
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	0	1	<1
Manganese	ppm	ASTM D5185(m)	0	0	<1	0
Magnesium	ppm	ASTM D5185(m)	0	<1	▲ 21	4
Calcium	ppm	ASTM D5185(m)	0	2	▲ 39	19
Phosphorus	ppm	ASTM D5185(m)	1700	1599	1363	1638
Zinc	ppm	ASTM D5185(m)	0	38	▲ 73	63
Sulfur	ppm	ASTM D5185(m)	1350	1413	1430	1443
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

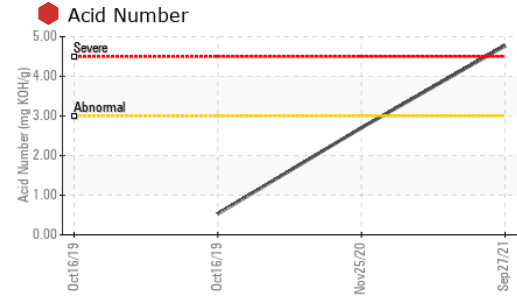
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>50	2	2	<1
Sodium	ppm	ASTM D5185(m)		2	2	0
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1

INFRA-RED

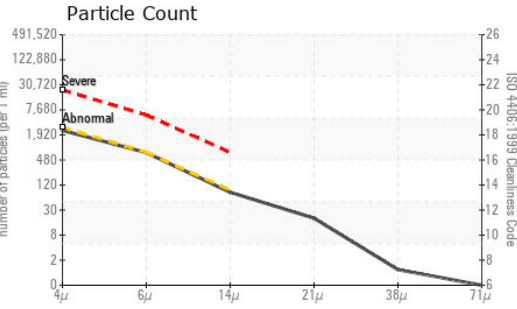
	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*		---	---	0
Nitration	Abs/cm	ASTM D7624*		---	---	2.1
Sulfation	Abs/.1mm	ASTM D7415*		---	---	23.9
Mineral Oil Content	%	ASTM D7418*	<5.0%	0.0	1.6	0.0



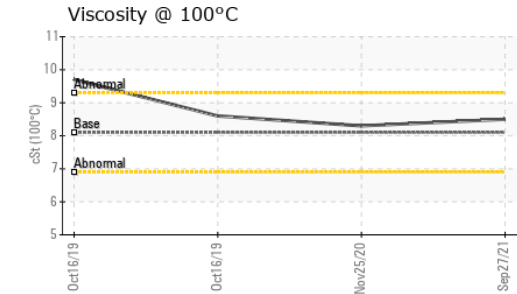
OIL ANALYSIS REPORT



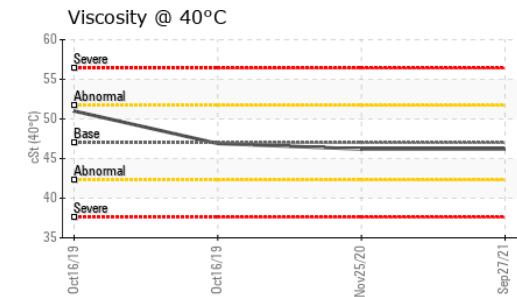
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	2158	45238	12821
Particles >6µm	ASTM D7647	>640	632	11430	731
Particles >14µm	ASTM D7647	>80	71	636	39
Particles >21µm	ASTM D7647	>20	17	127	9
Particles >38µm	ASTM D7647	>4	1	5	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	18/16/13	23/21/16	21/17/12



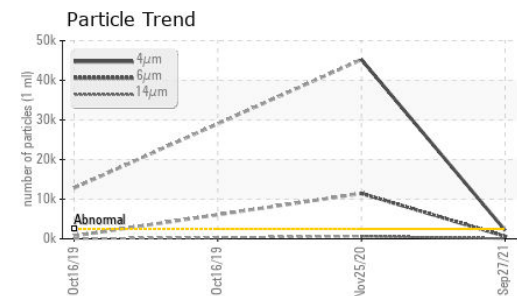
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	---	---	17.7
Acid Number (AN)	mg KOH/g	ASTM D974*	4.77	2.70	0.529



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



FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	47.0	46.2	46.9
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	8.5	8.6
Viscosity Index (VI)	Scale	ASTM D2270*	146	163	163



SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : 02446994
Unique Number : 5290529
Test Package : MOB 2 (Additional Tests: TAN Man)

Envirolin Canada
 520 rue Adanac
 Quebec, QC
 CA G1C 7B7
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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



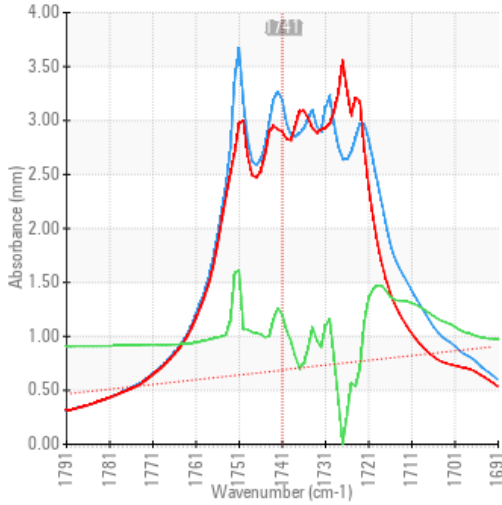
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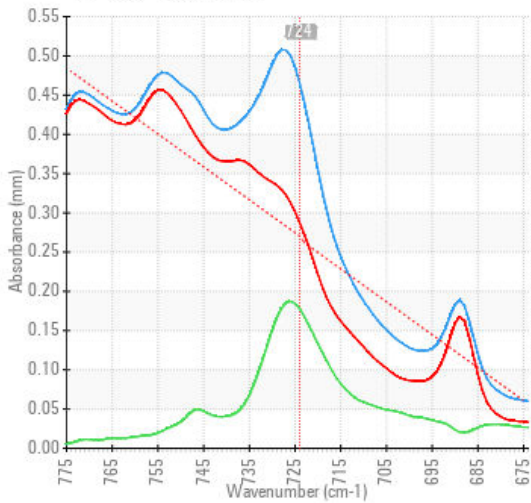
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	38	▲ 73	63
Mineral Oil Content	%	ASTM D7418*	<5.0%	0.0	1.6	0.0

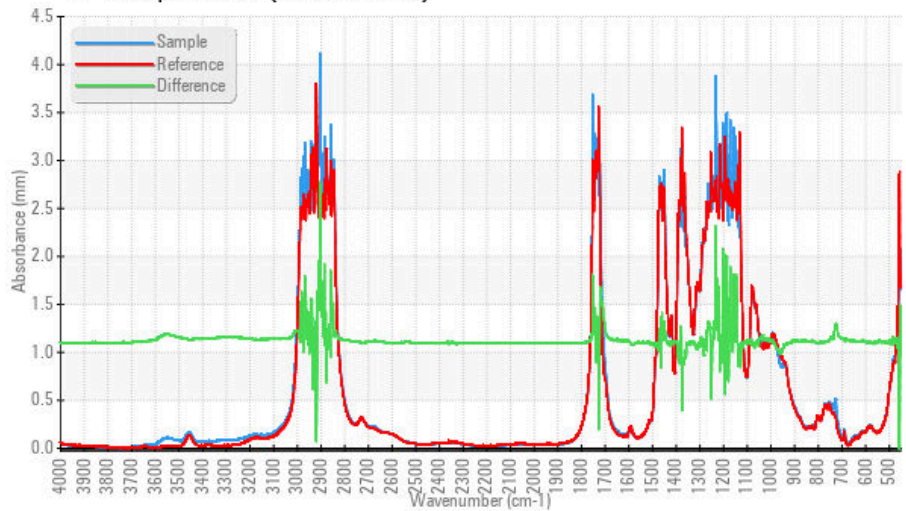
FT-IR - Esters I



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 : 02446994
Unique Number : 5290529
Test Package : MOB 2 (Additional Tests: TAN Man)

Received : 28 Sep 2021
Diagnosed : 06 Oct 2021
Diagnostician : Bill Quesnel

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