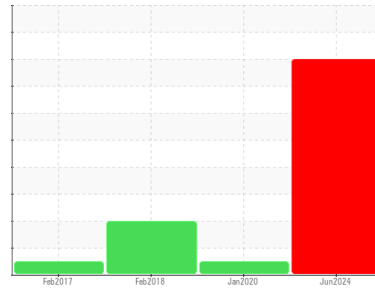




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

ENT RET G SAINT-LAURENT [02642188]

Machine Id

2008 VOLVO EC700C 436 (S/N 110040)

Component

Hydraulic System

Fluid

PANOLIN HLP SYNTH 46 (800 LTR)

DIAGNOSIS

Recommendation

Nous vous recommandons de vérifier tous les endroits par lesquels des contaminants peuvent pénétrer dans le système. Nous vous recommandons de vérifier la présence de particules métalliques visibles dans l'huile. Nous vous recommandons de remplacer le filtre et d'utiliser un système de filtrage hors-ligne afin d'améliorer la propreté du fluide. Le reniflard d'air doit être réparé. S'il n'est pas classé, nous vous recommandons de le remplacer par un reniflard à air adapté au micron et / ou au dessicant. Si évalué, nous vous recommandons de réparer / remplacer le reniflard. Échantillonner de nouveau dans 30 à 45 jours afin de contrôler la situation.

Wear

Présence d'une concentration moyenne de métal visible. Usure de cylindre. Le bas indice ferreux (PQ) indique que l'usure ferreuse est due à de la corrosion.

Contamination

Il y a une quantité élevée de matières particulaires (2 à 100 µm de taille) présente dans l'huile. Il y a une faible concentration (<5.0%) d'huile minérale présente dans le fluide. Le code de propreté du système est beaucoup plus haut que la limite acceptable pour votre objectif de propreté ISO 4406.

Fluid Condition

Le AN est acceptable pour ce fluide. l'huile peut encore servir si la contamination peut être réduite à un niveau acceptable.

Particle Filter (Magn: 100 x)



SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0922656	WC	WC
Sample Date	Client Info		06 Jun 2024	23 Jan 2020	26 Feb 2018
Machine Age	hrs	Client Info	16119	10736	8873
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			SEVERE	NORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	---	---
Iron	ppm	ASTM D5185(m) >25	38	4	4
Chromium	ppm	ASTM D5185(m) >10	2	2	<1
Nickel	ppm	ASTM D5185(m) >10	0	<1	0
Titanium	ppm	ASTM D5185(m)	0	<1	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >20	0	<1	0
Lead	ppm	ASTM D5185(m) >20	<1	0	0
Copper	ppm	ASTM D5185(m) >150	6	<1	<1
Tin	ppm	ASTM D5185(m) >10	0	2	<1
Antimony	ppm	ASTM D5185(m)	0	<1	<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	5	2
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m) 0	<1	0	0
Magnesium	ppm	ASTM D5185(m) 0	1	<1	<1
Calcium	ppm	ASTM D5185(m) 0	84	<1	<1
Phosphorus	ppm	ASTM D5185(m) 1700	1512	1423	1419
Zinc	ppm	ASTM D5185(m) 0	66	37	23
Sulfur	ppm	ASTM D5185(m) 1350	1407	1573	1381
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

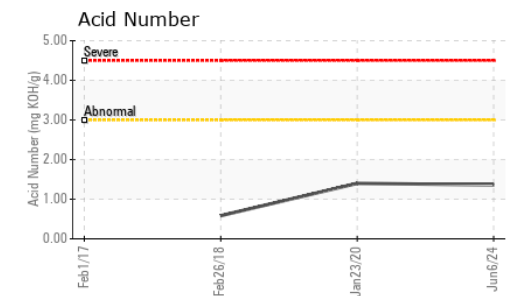
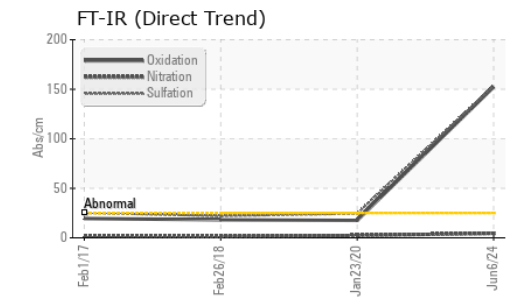
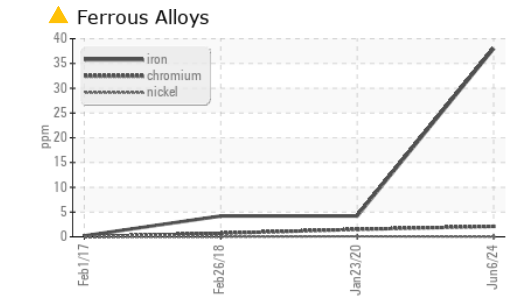
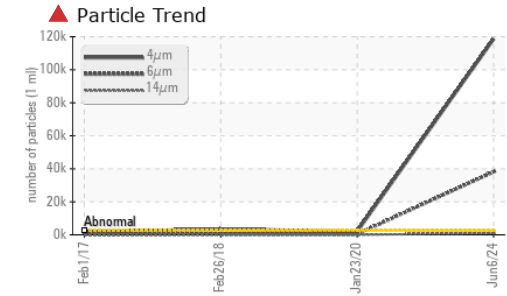
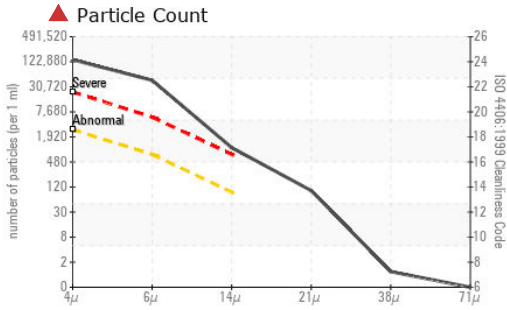
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	2	<1	<1
Sodium	ppm	ASTM D5185(m)	2	0	0
Potassium	ppm	ASTM D5185(m) >20	<1	<1	1
Water	%	ASTM D6304* >0.05	0.058	---	---
ppm Water	ppm	ASTM D6304* >500	588	---	---

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	0	0	0
Nitration	Abs/cm	ASTM D7624*	4.5	2.4	1.5
Sulfation	Abs/.1mm	ASTM D7415*	153.0	24.5	22.0
Mineral Oil Content	%	ASTM D7418*	<5.0	1.1	8.35



OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0922656
Lab Number : 02642185
Unique Number : 5799724
Test Package : MOB 2 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, PQ, PrtFilter, TAO, Contact)

Envirolin Canada
 520 rue Adanac
 Quebec, QC
 CA G1C 7B7
 Contact: Patrick Levesque
 patrick.levesque@envirolin.com
 T: (418)623-1216
 F: (418)660-8889

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.

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 118548	1999	● 3567
Particles >6µm	ASTM D7647	>640	▲ 38160	401	478
Particles >14µm	ASTM D7647	>80	▲ 931	33	47
Particles >21µm	ASTM D7647	>20	▲ 87	12	17
Particles >38µm	ASTM D7647	>4	1	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 24/22/17	18/16/12	● 19/16/13

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	152.3	17.6	18.2
Acid Number (AN)	mg KOH/g	ASTM D974*	1.36	1.40	0.584

VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	▲ VLITE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	VLITE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	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	45.3	48.2	44.6
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	8.2	7.9	7.7
Viscosity Index (VI)	Scale	ASTM D2270*	146	156	133	141

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter					



MINERAL OIL CONTENT REPORT

PASS

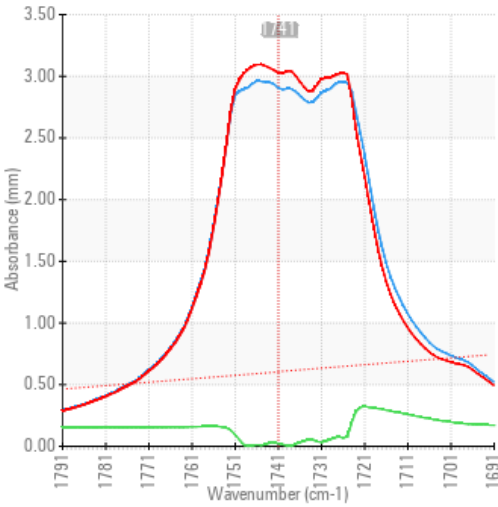


Area
ENT RET G SAINT-LAURENT [02642188]
 Machine Id
2008 VOLVO EC700C 436 (S/N 110040)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (800 LTR)

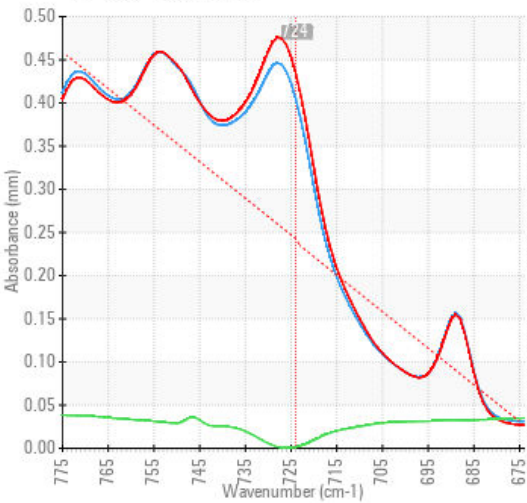
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	66	37	● 23
Mineral Oil Content	%	ASTM D7418*	<5.0%	<5.0	1.1	▲ 8.35

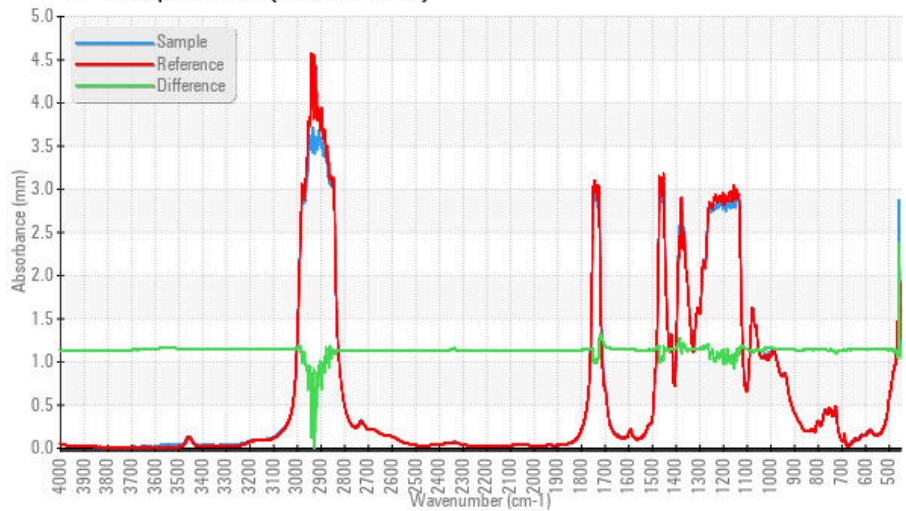
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0922656 **Received** : 14 Jun 2024
Lab Number : 02642185 **Tested** : 18 Jun 2024
Unique Number : 5799724 **Diagnosed** : 24 Jun 2024 - Bill Quesnel
Test Package : MOB 2 (Additional Tests: Bottom, BottomAnalysis, FilterPatch, PQ, PrtFilter, TAN Man)

Envirolin Canada

520 rue Adanac
 Quebec, QC
 CA G1C 7B7

Contact: Patrick Levesque
 patrick.levesque@envirolin.com

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.

T: (418)623-1216
 F: (418)660-8889

This page left intentionally blank