

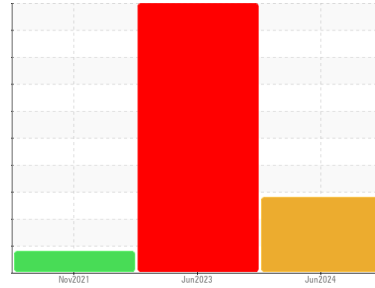


# OIL ANALYSIS REPORT



Area  
**ENTREPRISES R ET G ST-LAURENT INC [02642188]**  
 Machine Id  
**VOLVO EC480EL 437 (S/N VCEC480EPDD310192)**  
 Component  
**Hydraulic System**  
 Fluid  
**PANOLIN HLP SYNTH 46 (525 LTR)**

Sample Rating Trend



WEAR



## DIAGNOSIS

### ▲ Recommendation

Vérifier les scelles et/ou les filtres pour des points d'entrée des contaminants. 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. Nous recommandons le remplacement des filtres de ce composant. Échantillonner de nouveau dans 30 à 45 jours afin de contrôler la situation.

### ▲ Wear

Le bas indice ferreux (PQ) indique que l'usure ferreuse est due à de la corrosion.

### ▲ Contamination

Il y a une grande quantité de limon (particules de 4 à 14 microns) dans l'huile. Il y a une faible concentration (<5.0%) d'huile minérale présente dans le fluide. La teneur en eau est négligeable. 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.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0922658</b>	WC	WC
Sample Date	Client Info		<b>06 Jun 2024</b>	08 Jun 2023	16 Nov 2021
Machine Age	hrs	Client Info	<b>13374</b>	11170	9782
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>SEVERE</b>	SEVERE	ABNORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		<b>0</b>	0	---
Iron	ppm	ASTM D5185(m) >25	<b>▲ 39</b>	▲ 34	4
Chromium	ppm	ASTM D5185(m) >10	<b>4</b>	4	1
Nickel	ppm	ASTM D5185(m) >10	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185(m)	<b>0</b>	<1	0
Silver	ppm	ASTM D5185(m)	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	4	0
Lead	ppm	ASTM D5185(m) >20	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185(m) >150	<b>9</b>	11	3
Tin	ppm	ASTM D5185(m) >10	<b>0</b>	<1	<1
Antimony	ppm	ASTM D5185(m)	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<b>1</b>	2	1
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m) 0	<b>0</b>	0	<1
Manganese	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185(m) 0	<b>1</b>	2	<1
Calcium	ppm	ASTM D5185(m) 0	<b>4</b>	7	7
Phosphorus	ppm	ASTM D5185(m) 1700	<b>1356</b>	1486	1650
Zinc	ppm	ASTM D5185(m) 0	<b>75</b>	● 92	29
Sulfur	ppm	ASTM D5185(m) 1350	<b>1246</b>	1394	1457
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

## CONTAMINANTS

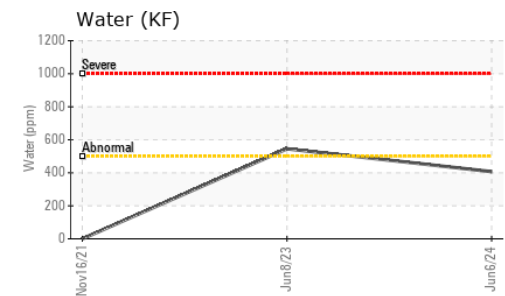
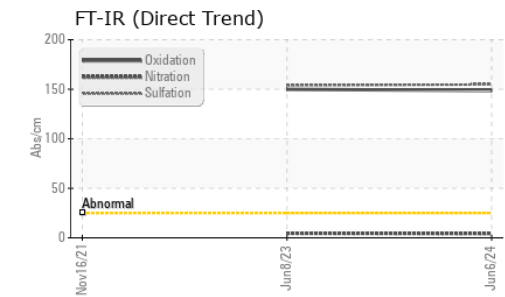
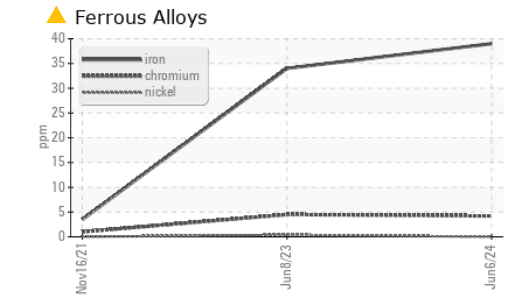
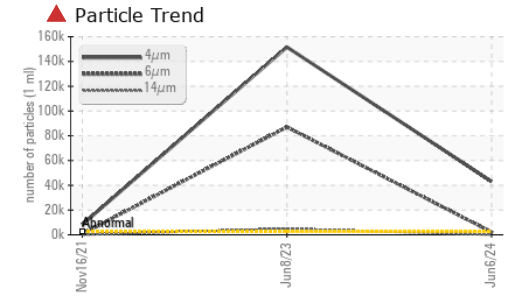
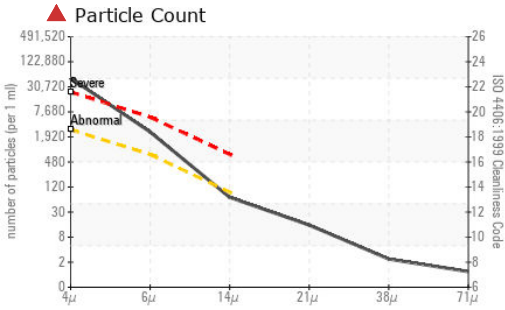
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >50	<b>2</b>	10	1
Sodium	ppm	ASTM D5185(m)	<b>1</b>	2	<1
Potassium	ppm	ASTM D5185(m) >20	<b>2</b>	2	<1
Water	%	ASTM D6304* >0.05	<b>0.040</b>	▲ 0.054	---
ppm Water	ppm	ASTM D6304* >500	<b>407</b>	▲ 545.2	---

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	<b>0</b>	0	---
Nitration	Abs/cm	ASTM D7624*	<b>4.3</b>	4.5	---
Sulfation	Abs/.1mm	ASTM D7415*	<b>154.8</b>	153.9	---
Mineral Oil Content	%	ASTM D7418*	<b>&lt;5.0</b>	<5.0	4.9



# OIL ANALYSIS REPORT



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0922658  
**Lab Number** : 02642186  
**Unique Number** : 5799725  
**Test Package** : MOB 2 ( Additional Tests: PQ, TAN Man )

**Received** : 14 Jun 2024  
**Tested** : 18 Jun 2024  
**Diagnosed** : 24 Jun 2024 - Bill Quesnel

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.

**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

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 43025	▲ 151612	▲ 8228
Particles >6µm	ASTM D7647	>640	▲ 2206	▲ 87071	639
Particles >14µm	ASTM D7647	>80	60	▲ 4900	59
Particles >21µm	ASTM D7647	>20	13	▲ 523	29
Particles >38µm	ASTM D7647	>4	2	4	5
Particles >71µm	ASTM D7647	>3	1	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 23/18/13	▲ 24/24/19	▲ 20/16/13

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	148.6	149.9	---
Acid Number (AN)	mg KOH/g	ASTM D974*	1.31	1.10	0.57

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	VLITE	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	.2%	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	44.5	46.4
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	8	8.2
Viscosity Index (VI)	Scale	ASTM D2270*	146	153	151

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					





# MINERAL OIL CONTENT REPORT

PASS



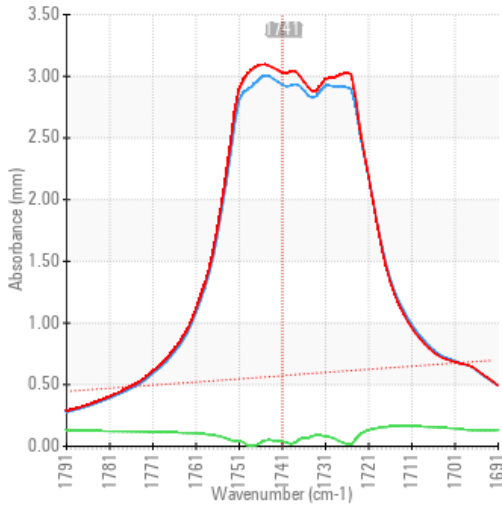
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 Machine Id  
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**Hydraulic System**  
 Fluid  
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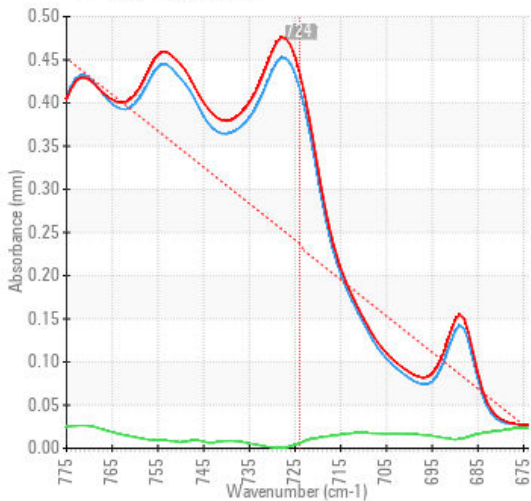
## SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	<b>75</b>	92	29
Mineral Oil Content	%	ASTM D7418*	<5.0%	<b>&lt;5.0</b>	<5.0	4.9

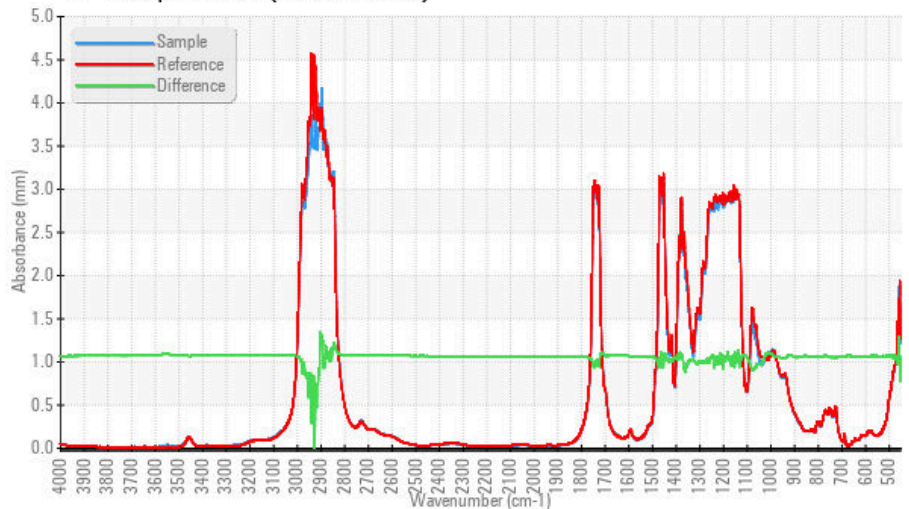
### FT-IR - Esters I



### FT-IR - Esters II



### FT-IR Spectrum (Absorbance)



ISO 17025:2017  
 Accredited  
 Laboratory

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