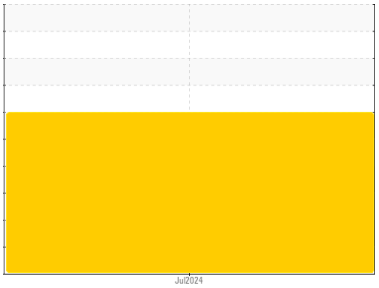
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
[69492]
Machine Id
VOLVO 4406
Component
Diesel Engine
Fluid
PETRO CANADA DURON SAE 10W30 (--- GAL)

DIAGNOSIS

▲ Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

▲ Wear
Iron ppm levels are severe. Cylinder, crank, or cam shaft wear is indicated.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

Fluid Condition
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0948204**	---	---
Sample Date		Client Info		**03 Jul 2024**	---	---
Machine Age	kms	Client Info		**735310**	---	---
Oil Age	kms	Client Info		**0**	---	---
Oil Changed		Client Info		**Changed**	---	---
Sample Status				**SEVERE**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	---	---
Glycol		WC Method		**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	---	---
Iron	ppm	ASTM D5185(m)	>100	▲ **239**	---	---
Chromium	ppm	ASTM D5185(m)	>20	**4**	---	---
Nickel	ppm	ASTM D5185(m)	>2	**1**	---	---
Titanium	ppm	ASTM D5185(m)		**<1**	---	---
Silver	ppm	ASTM D5185(m)	>2	**<1**	---	---
Aluminum	ppm	ASTM D5185(m)	>25	**16**	---	---
Lead	ppm	ASTM D5185(m)	>40	**5**	---	---
Copper	ppm	ASTM D5185(m)	>330	**16**	---	---
Tin	ppm	ASTM D5185(m)	>15	**2**	---	---
Antimony	ppm	ASTM D5185(m)		**0**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

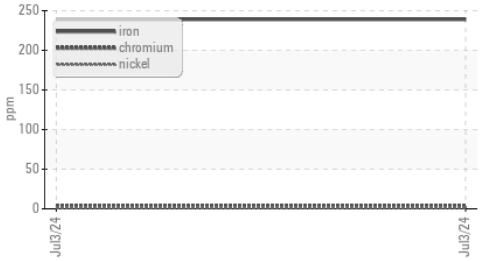
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	1	**9**	---	---
Barium	ppm	ASTM D5185(m)	1	**<1**	---	---
Molybdenum	ppm	ASTM D5185(m)	1	**54**	---	---
Manganese	ppm	ASTM D5185(m)	1	**3**	---	---
Magnesium	ppm	ASTM D5185(m)	10	**784**	---	---
Calcium	ppm	ASTM D5185(m)	2942	**1226**	---	---
Phosphorus	ppm	ASTM D5185(m)	1102	**908**	---	---
Zinc	ppm	ASTM D5185(m)	1351	**1166**	---	---
Sulfur	ppm	ASTM D5185(m)	3903	**1984**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**12**	---	---
Sodium	ppm	ASTM D5185(m)		**7**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**23**	---	---
Fuel	%	ASTM D7593*	>6.0	**0.0**	---	---

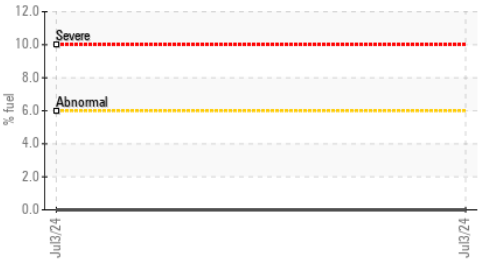
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**1.5**	---	---
Nitration	Abs/cm	ASTM D7624*	>20	**15.3**	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**31.7**	---	---

OIL ANALYSIS REPORT

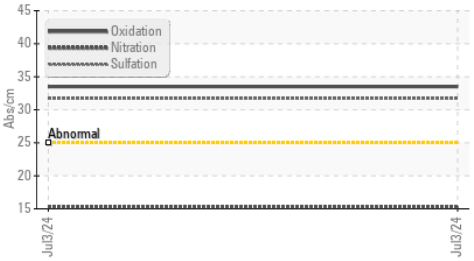
Ferrous Alloys



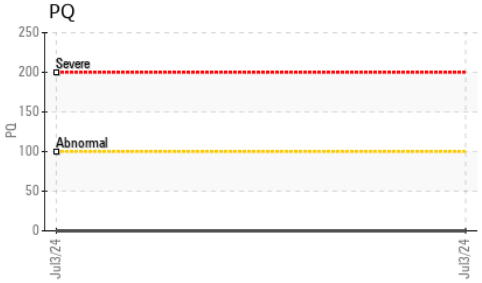
Fuel Dilution



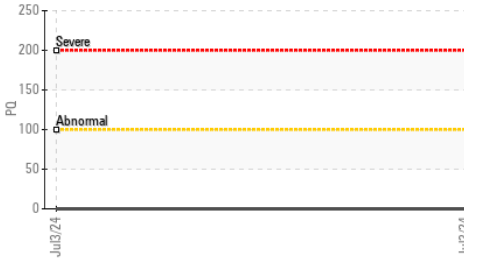
FT-IR (Direct Trend)



PQ



PQ



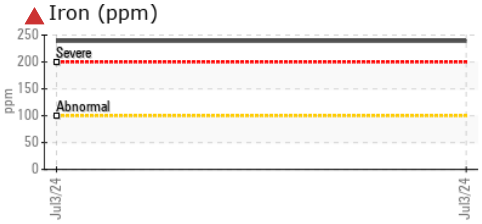
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**33.5**	---	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**VLITE**	---	---
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*	>0.2	**NEG**	---	---
Free Water	scalar	Visual*		**NEG**	---	---

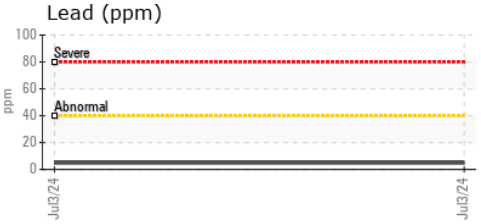
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	11.4	**12.3**	---	---

GRAPHS

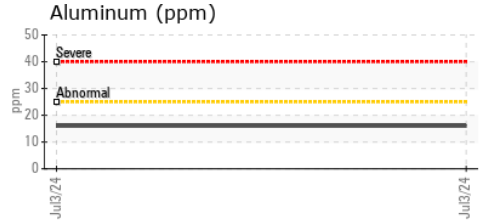
Iron (ppm)



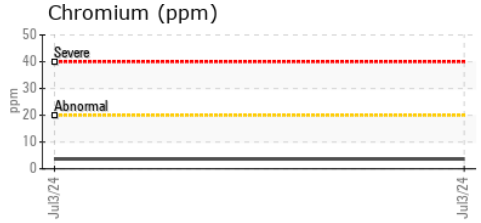
Lead (ppm)



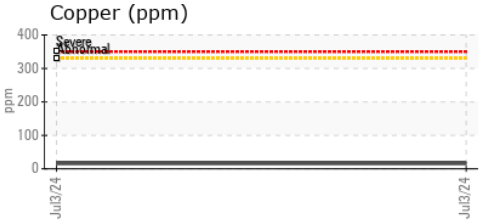
Aluminum (ppm)



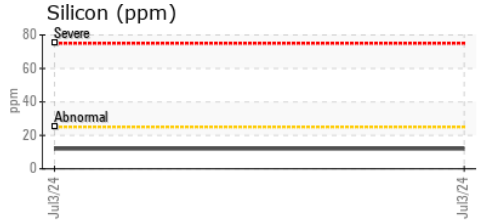
Chromium (ppm)



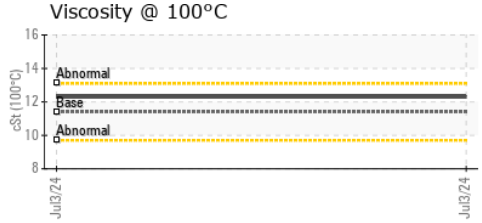
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Soot %

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0948204
Lab Number : 02646100
Unique Number : 5811652
Test Package : MOB 1 (Additional Tests: FUELDILUTION, PercentFuel, PQ, Visual)

Received : 08 Jul 2024
Tested : 09 Jul 2024
Diagnosed : 10 Jul 2024 - Kevin Marson

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.

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