OIL DIAGNOSTICS

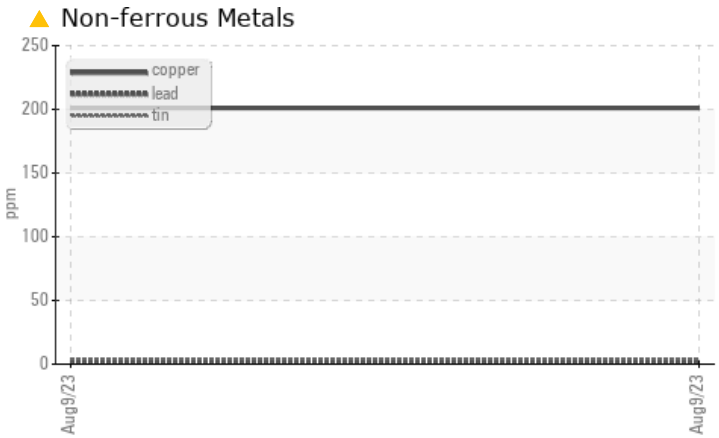
PROBLEM SUMMARY

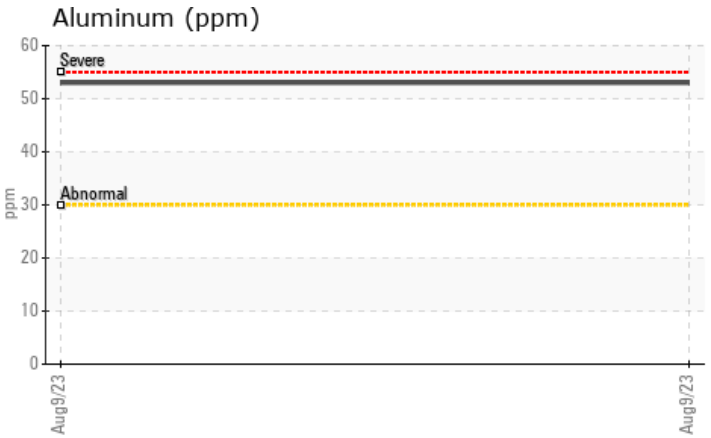
Sample Rating Trend

WEAR

Area
(AY418B) Supermarket
Machine Id
FREIGHTLINER 107A1852
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (11 GAL)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	---	---
Copper	ppm	ASTM D5185m	>150	▲ **201**	---	---

Customer Id: TSV1072
Sample No.: PCA0100410
Lab Number: 05924049
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Sean Felton +1 919-379-4092
sfelton@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.

HISTORICAL DIAGNOSIS

OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend

WEAR

Area
(AY418B) Supermarket
Machine Id
FREIGHTLINER 107A1852
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (11 GAL)

DIAGNOSIS

▲ Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

▲ Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

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. There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0100410**	---	---
Sample Date		Client Info		**09 Aug 2023**	---	---
Machine Age	hrs	Client Info		**33551**	---	---
Oil Age	hrs	Client Info		**33551**	---	---
Oil Changed		Client Info		**Changed**	---	---
Sample Status				**ABNORMAL**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	---	---
Glycol		WC Method		**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	**60**	---	---
Chromium	ppm	ASTM D5185m	>5	**4**	---	---
Nickel	ppm	ASTM D5185m	>2	**<1**	---	---
Titanium	ppm	ASTM D5185m		**<1**	---	---
Silver	ppm	ASTM D5185m	>3	**0**	---	---
Aluminum	ppm	ASTM D5185m	>30	**53**	---	---
Lead	ppm	ASTM D5185m	>30	**2**	---	---
Copper	ppm	ASTM D5185m	>150	▲ **201**	---	---
Tin	ppm	ASTM D5185m	>5	**4**	---	---
Vanadium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**30**	---	---
Barium	ppm	ASTM D5185m	0	**0**	---	---
Molybdenum	ppm	ASTM D5185m	50	**50**	---	---
Manganese	ppm	ASTM D5185m	0	**4**	---	---
Magnesium	ppm	ASTM D5185m	950	**662**	---	---
Calcium	ppm	ASTM D5185m	1050	**1821**	---	---
Phosphorus	ppm	ASTM D5185m	995	**815**	---	---
Zinc	ppm	ASTM D5185m	1180	**1059**	---	---
Sulfur	ppm	ASTM D5185m	2600	**2562**	---	---

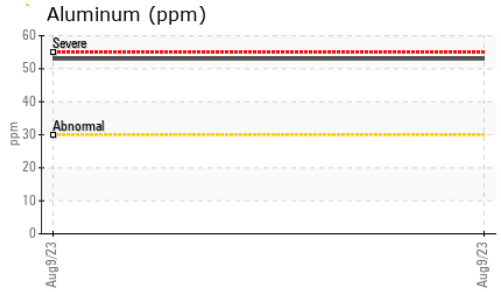
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**7**	---	---
Sodium	ppm	ASTM D5185m		**5**	---	---
Potassium	ppm	ASTM D5185m	>20	**158**	---	---

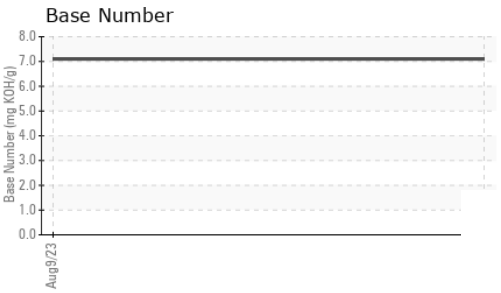
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.8**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**10.8**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.4**	---	---

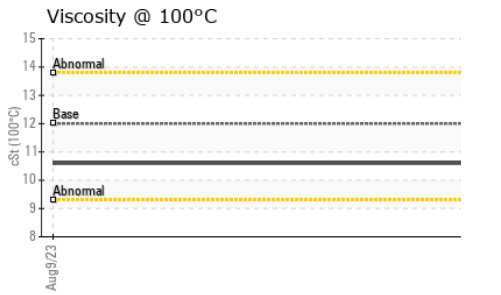
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.9**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		**7.1**	---	---

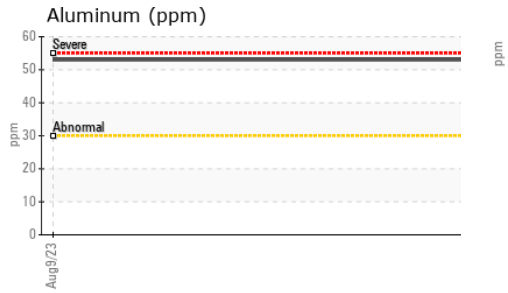
OIL ANALYSIS REPORT

OIL DIAGNOSTICS





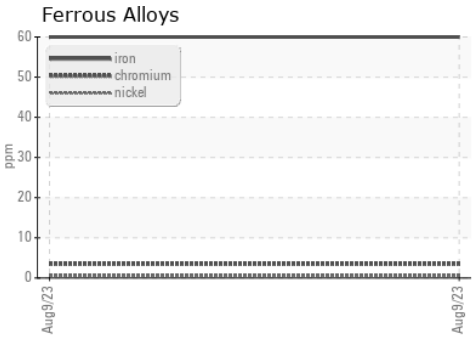


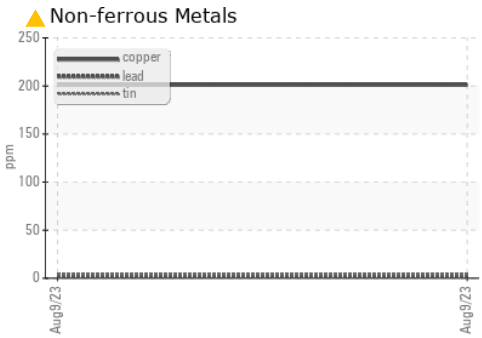


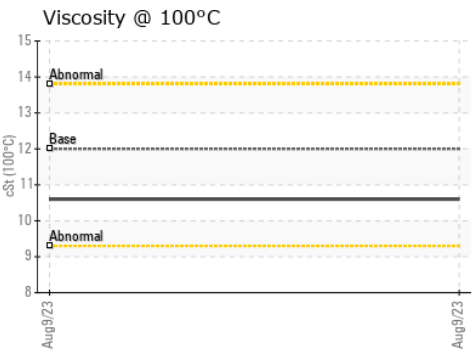
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	---	---
Appearance	scalar	*Visual	NORML	**NORML**	---	---
Odor	scalar	*Visual	NORML	**NORML**	---	---
Emulsified Water	scalar	*Visual	>0.2	**NEG**	---	---
Free Water	scalar	*Visual		**NEG**	---	---

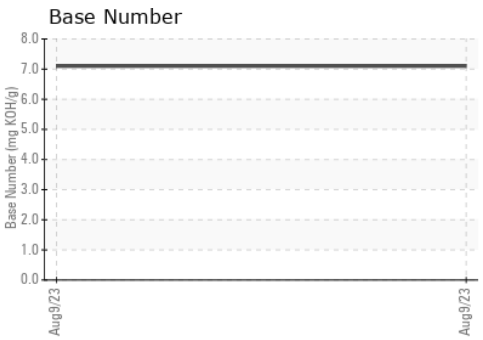
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	**10.6**	---	---

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0100410
Lab Number : 05924049
Unique Number : 10603996
Test Package : FLEET

Received : 14 Aug 2023
Diagnosed : 15 Aug 2023
Diagnostician : Sean Felton

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Report Id: TSV1072 [WUSCAR] 05924049 (Generated: 08/15/2023 15:22:12) Rev: 1

Submitted By: Normand Brizak