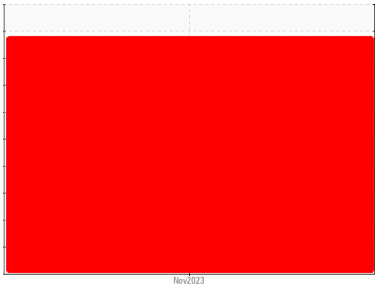
OIL DIAGNOSTICS

PROBLEM SUMMARY

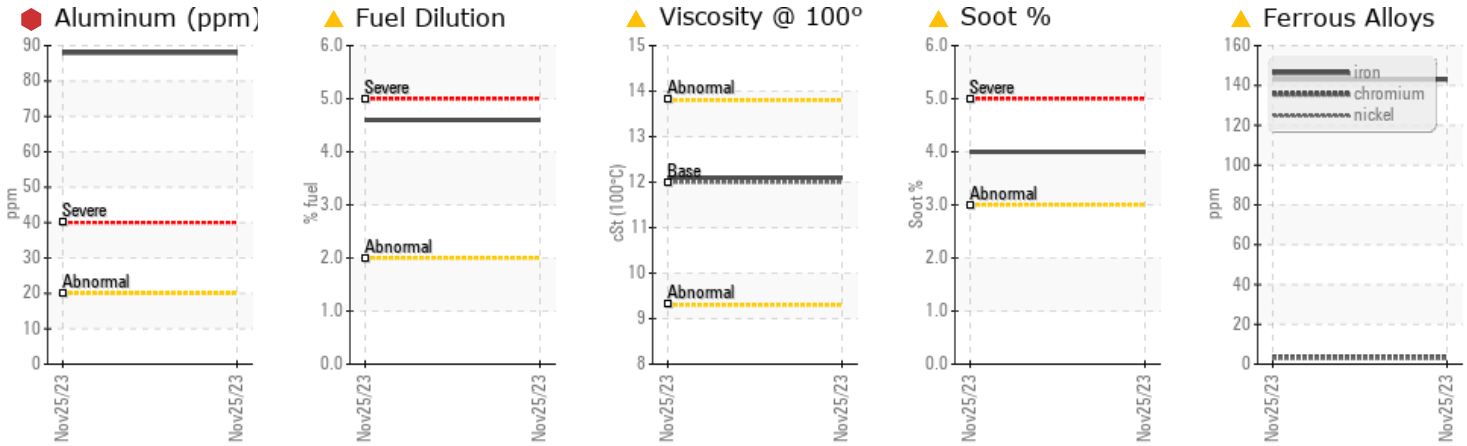
Sample Rating Trend



WEAR

Area
(P1103992) Somerset Service-D-TRUCK
Machine Id
[Somerset Service-D-TRUCK] 248D9574
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	---	---
Iron	ppm	ASTM D5185m	>100	▲ **143**	---	---
Aluminum	ppm	ASTM D5185m	>20	⬢ **88**	---	---
Fuel	%	ASTM D3524	>2.0	▲ **4.6**	---	---
Soot %	%	*ASTM D7844	>3	▲ **4**	---	---
Visc @ 100°C	cSt	ASTM D445	12.00	▲ **12.1**	---	---

Customer Id: TSV2480
Sample No.: PCA0109451
Lab Number: 06035636
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

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

RECOMMENDED ACTIONS

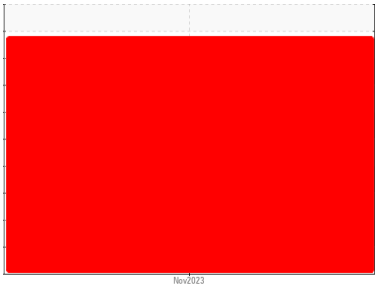
Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
(P1103992) Somerset Service-D-TRUCK
Machine Id
[Somerset Service-D-TRUCK] 248D9574
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear

Piston and cylinder wear is indicated.

Contamination

There is an abnormal amount of solids and carbon present in the oil. There is a moderate amount of fuel present in the oil.

Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0109451**	---	---
Sample Date		Client Info		**25 Nov 2023**	---	---
Machine Age	mls	Client Info		**170475**	---	---
Oil Age	mls	Client Info		**19978**	---	---
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
Iron	ppm	ASTM D5185m	>100	▲ **143**	---	---
Chromium	ppm	ASTM D5185m	>20	**3**	---	---
Nickel	ppm	ASTM D5185m	>4	**3**	---	---
Titanium	ppm	ASTM D5185m		**0**	---	---
Silver	ppm	ASTM D5185m	>3	**0**	---	---
Aluminum	ppm	ASTM D5185m	>20	⬢ **88**	---	---
Lead	ppm	ASTM D5185m	>40	**11**	---	---
Copper	ppm	ASTM D5185m	>330	**22**	---	---
Tin	ppm	ASTM D5185m	>15	**0**	---	---
Vanadium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**13**	---	---
Barium	ppm	ASTM D5185m	0	**0**	---	---
Molybdenum	ppm	ASTM D5185m	50	**50**	---	---
Manganese	ppm	ASTM D5185m	0	**1**	---	---
Magnesium	ppm	ASTM D5185m	950	**931**	---	---
Calcium	ppm	ASTM D5185m	1050	**1305**	---	---
Phosphorus	ppm	ASTM D5185m	995	**971**	---	---
Zinc	ppm	ASTM D5185m	1180	**1145**	---	---
Sulfur	ppm	ASTM D5185m	2600	**2807**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**10**	---	---
Sodium	ppm	ASTM D5185m		**7**	---	---
Potassium	ppm	ASTM D5185m	>20	**33**	---	---
Fuel	%	ASTM D3524	>2.0	▲ **4.6**	---	---

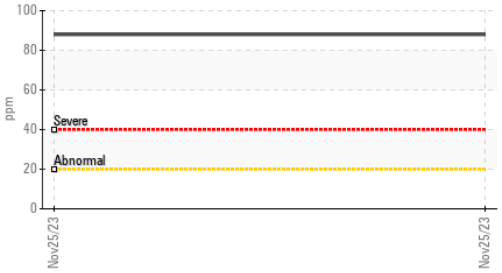
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	▲ **4**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**16.1**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**30.4**	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.6**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		**4.6**	---	---

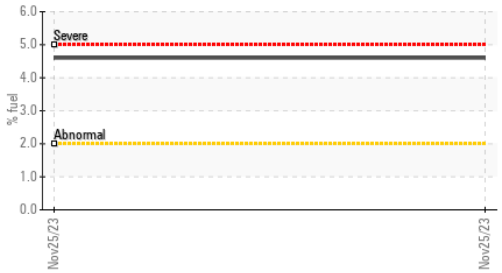
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

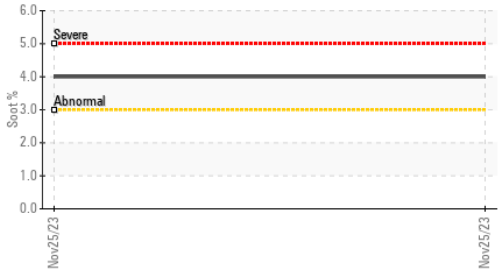
Aluminum (ppm)



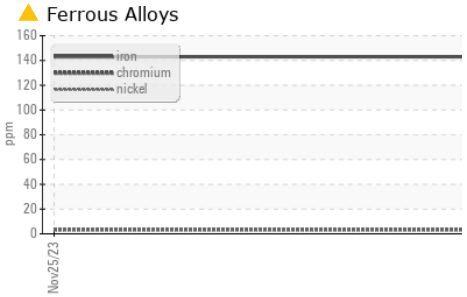
Fuel Dilution



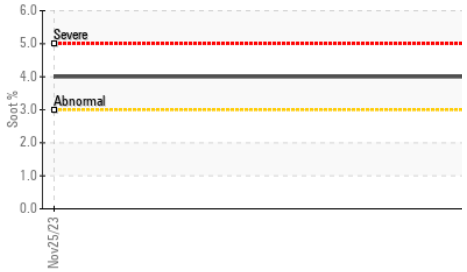
Soot %



Ferrous Alloys



Soot %

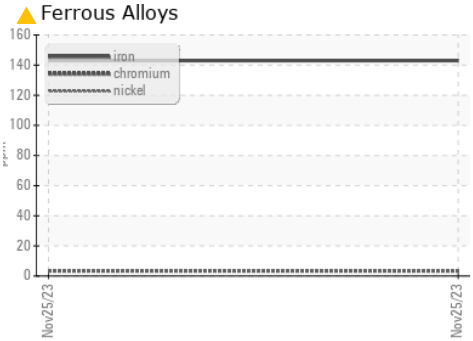


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar	*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**	---	---

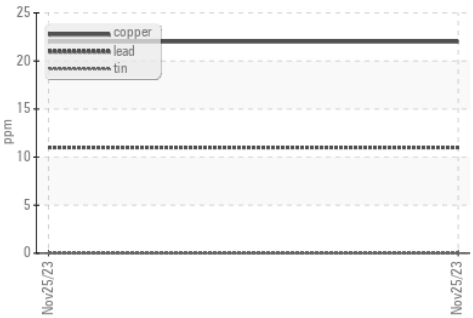
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	▲ **12.1**	---	---

GRAPHS

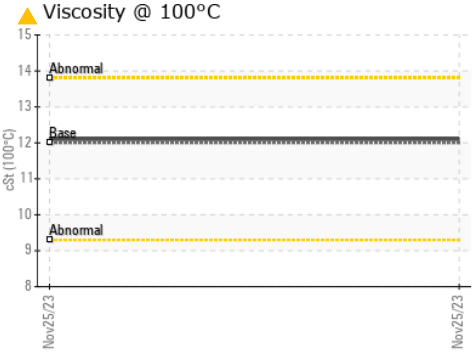
Ferrous Alloys



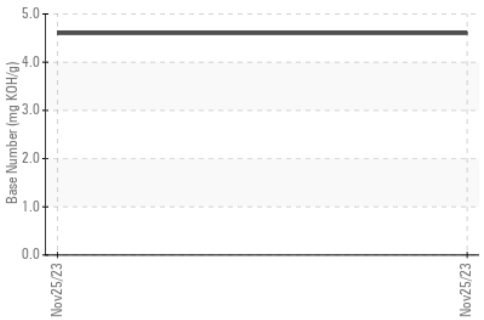
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0109451 **Recieved** : 15 Dec 2023
Lab Number : 06035636 **Diagnosed** : 21 Dec 2023
Unique Number : 10790865 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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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US 42501
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