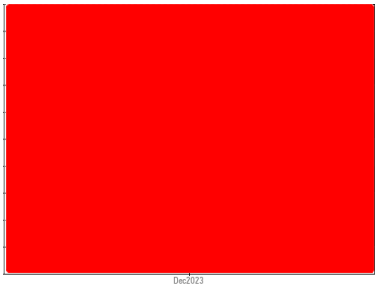
PROBLEM SUMMARY

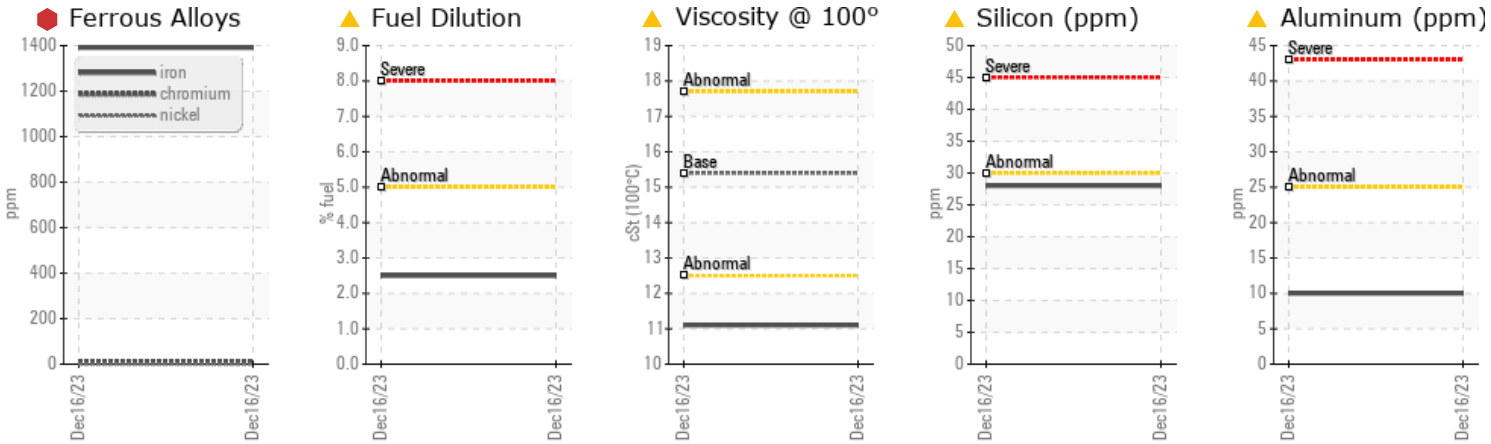
Sample Rating Trend



WEAR

Machine Id
514050 PETERBILT 567
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil and perform a filter service on this component if not already done. 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	>110	**1391**	---	---
Chromium	ppm	ASTM D5185m	>4	**8**	---	---
Silicon	ppm	ASTM D5185m	>30	**28**	---	---
Fuel	%	ASTM D3524	>5	**2.5**	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	**11.1**	---	---

Customer Id: GFL980
Sample No.: GFL0066601
Lab Number: 06041810
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

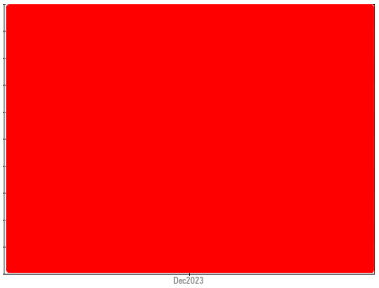
RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Change Fluid	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

HISTORICAL DIAGNOSIS

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
514050 PETERBILT 567
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear
Cylinder, crank, or cam shaft wear is indicated.

Contamination
Light fuel dilution occurring. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. 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		**GFL0066601**	---	---
Sample Date		Client Info		**16 Dec 2023**	---	---
Machine Age	mls	Client Info		**0**	---	---
Oil Age	mls	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
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	>110	**1391**	---	---
Chromium	ppm	ASTM D5185m	>4	**8**	---	---
Nickel	ppm	ASTM D5185m	>2	**<1**	---	---
Titanium	ppm	ASTM D5185m		**<1**	---	---
Silver	ppm	ASTM D5185m	>2	**0**	---	---
Aluminum	ppm	ASTM D5185m	>25	**10**	---	---
Lead	ppm	ASTM D5185m	>45	**0**	---	---
Copper	ppm	ASTM D5185m	>85	**9**	---	---
Tin	ppm	ASTM D5185m	>4	**<1**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	---	---
Cadmium	ppm	ASTM D5185m		**<1**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**73**	---	---
Barium	ppm	ASTM D5185m	0	**3**	---	---
Molybdenum	ppm	ASTM D5185m	60	**2**	---	---
Manganese	ppm	ASTM D5185m	0	**8**	---	---
Magnesium	ppm	ASTM D5185m	1010	**456**	---	---
Calcium	ppm	ASTM D5185m	1070	**819**	---	---
Phosphorus	ppm	ASTM D5185m	1150	**720**	---	---
Zinc	ppm	ASTM D5185m	1270	**534**	---	---
Sulfur	ppm	ASTM D5185m	2060	**9708**	---	---

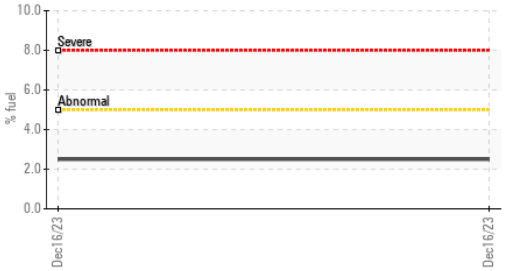
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**28**	---	---
Sodium	ppm	ASTM D5185m		**4**	---	---
Potassium	ppm	ASTM D5185m	>20	**23**	---	---
Fuel	%	ASTM D3524	>5	**2.5**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**6.8**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**16.7**	---	---

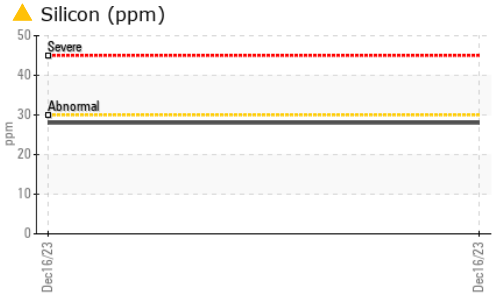
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**10.9**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**6.2**	---	---

OIL ANALYSIS REPORT

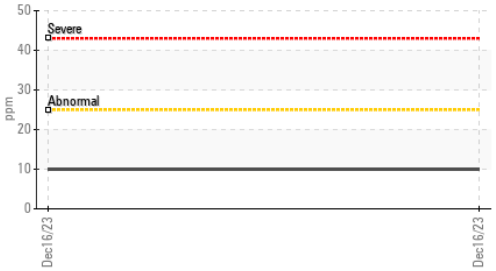
Fuel Dilution



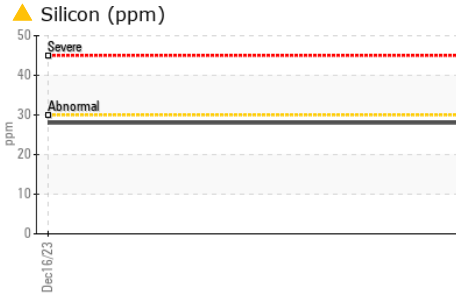
Silicon (ppm)



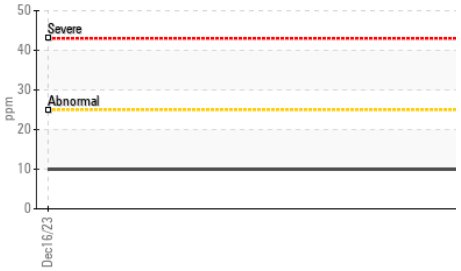
Aluminum (ppm)



Silicon (ppm)



Aluminum (ppm)

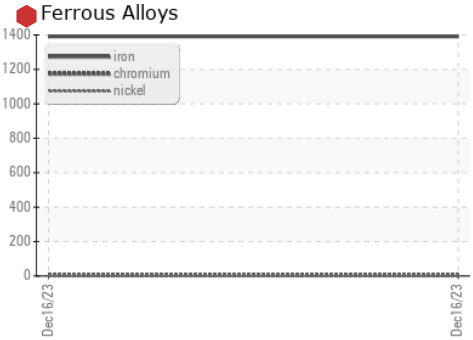


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar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

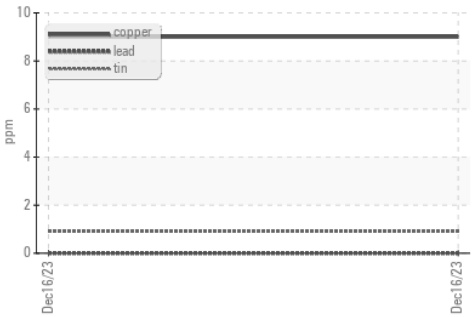
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **11.1**	---	---

GRAPHS

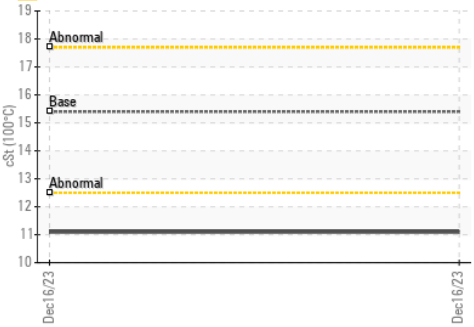
Ferrous Alloys



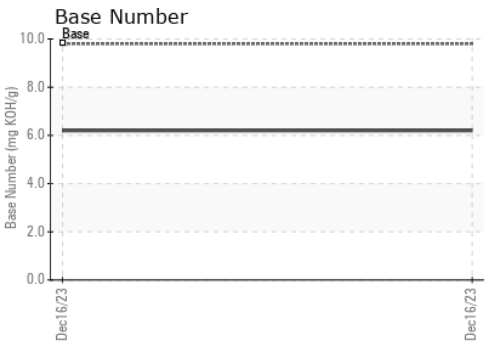
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0066601 **Recieved** : 21 Dec 2023
Lab Number : 06041810 **Diagnosed** : 26 Dec 2023
Unique Number : 10802418 **Diagnostician** : Sean Felton
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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