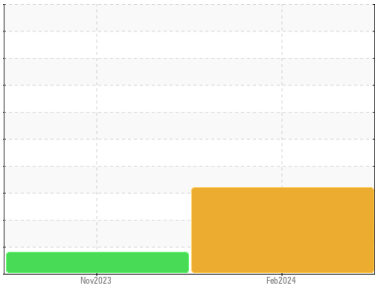
PROBLEM SUMMARY

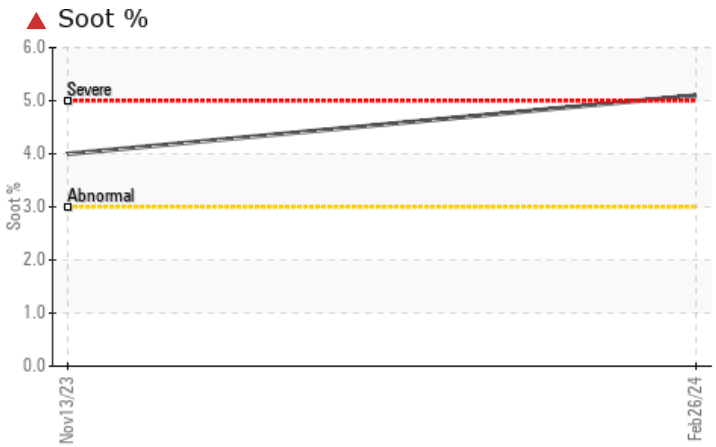
Sample Rating Trend



SOOT

Machine Id
827073 PETERBILT 320
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. (Customer Sample Comment: Sampled only)

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	ABNORMAL	---
Soot %	%	*ASTM D7844	>3	▲ **5.1**	▲ 4	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **0.0**	5.2	---

Customer Id: GFL642
Sample No.: GFL0061432
Lab Number: 06103587
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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	---	---	?	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.
Alert	---	---	?	NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.
Check Combustion	---	---	?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.

HISTORICAL DIAGNOSIS

13 Nov 2023 Diag: Wes Davis

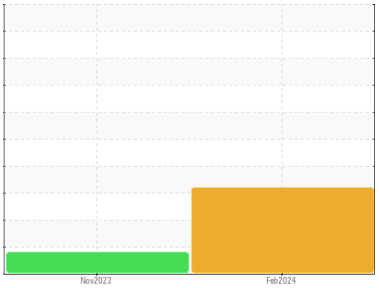
SOOT

The oil change at the time of sampling has been noted.All component wear rates are normal. Light concentration of carbon/soot present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



SOOT

Machine Id
827073 PETERBILT 320
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. (Customer Sample Comment: Sampled only)

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0061432**	GFL0061440	---
Sample Date		Client Info		**26 Feb 2024**	13 Nov 2023	---
Machine Age	hrs	Client Info		**20376**	20376	---
Oil Age	hrs	Client Info		**500**	600	---
Oil Changed		Client Info		**Not Changd**	Changed	---
Sample Status				**SEVERE**	ABNORMAL	---

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	**46**	66	---
Chromium	ppm	ASTM D5185m	>4	**1**	2	---
Nickel	ppm	ASTM D5185m	>2	**0**	0	---
Titanium	ppm	ASTM D5185m		**<1**	<1	---
Silver	ppm	ASTM D5185m	>2	**0**	0	---
Aluminum	ppm	ASTM D5185m	>25	**2**	3	---
Lead	ppm	ASTM D5185m	>45	**<1**	10	---
Copper	ppm	ASTM D5185m	>85	**<1**	3	---
Tin	ppm	ASTM D5185m	>4	**<1**	0	---
Vanadium	ppm	ASTM D5185m		**0**	0	---
Cadmium	ppm	ASTM D5185m		**0**	<1	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**8**	5	---
Barium	ppm	ASTM D5185m	0	**0**	<1	---
Molybdenum	ppm	ASTM D5185m	60	**54**	68	---
Manganese	ppm	ASTM D5185m	0	**<1**	<1	---
Magnesium	ppm	ASTM D5185m	1010	**857**	1004	---
Calcium	ppm	ASTM D5185m	1070	**1033**	1216	---
Phosphorus	ppm	ASTM D5185m	1150	**1001**	1083	---
Zinc	ppm	ASTM D5185m	1270	**1207**	1373	---
Sulfur	ppm	ASTM D5185m	2060	**2864**	3542	---

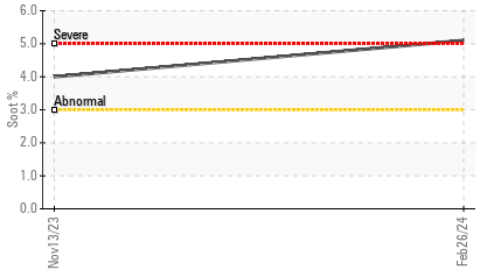
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**5**	6	---
Sodium	ppm	ASTM D5185m		**4**	4	---
Potassium	ppm	ASTM D5185m	>20	**1**	4	---
Fuel	%	ASTM D3524	>5	**<1.0**	<1.0	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	▲ **5.1**	▲ 4	---
Nitration	Abs/cm	*ASTM D7624	>20	**15.3**	13.1	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**30.9**	30.5	---

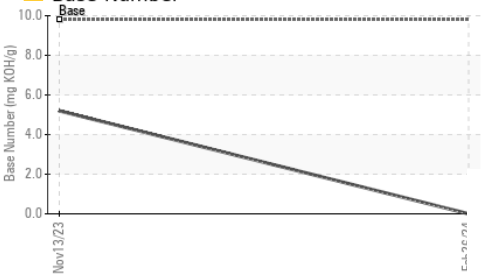
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**24.5**	19.7	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	▲ **0.0**	5.2	---

OIL ANALYSIS REPORT

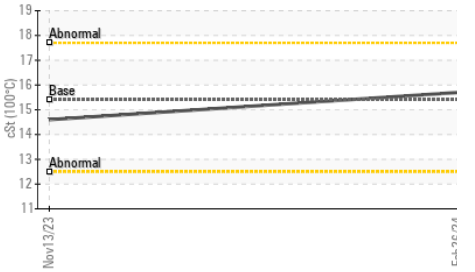
Soot %



Base Number



Viscosity @ 100°C

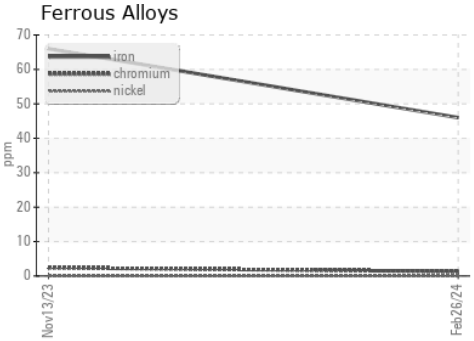


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt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

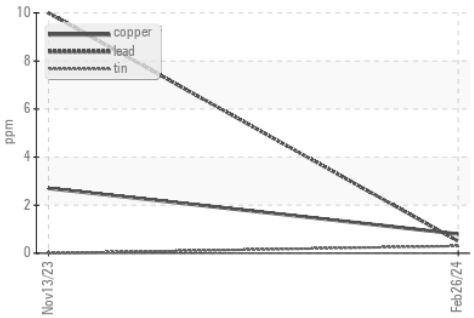
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**15.7**	14.6	---

GRAPHS

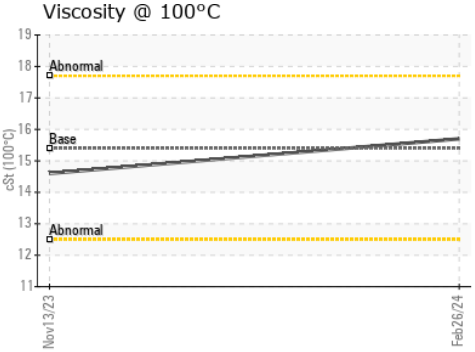
Ferrous Alloys



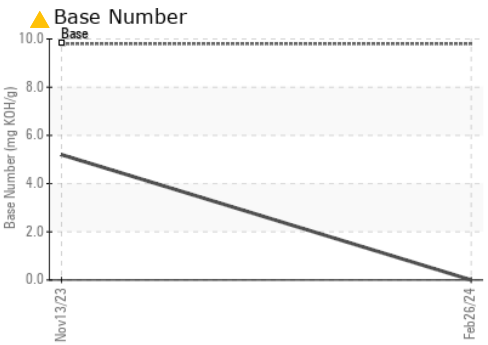
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0061432
Lab Number : 06103587
Unique Number : 10901817
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 28 Feb 2024
Tested : 06 Mar 2024
Diagnosed : 07 Mar 2024 - Doug Bogart

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)

GFL Environmental - 642- Grand Rapids Hauling
5826 Alden Nash Ave SE
Lowell, MI
US 49331
Contact: Josh Arnett
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T:
F:

Report Id: GFL642 [WUSCAR] 06103587 (Generated: 03/07/2024 11:44:25) Rev: 1

Submitted By: BRITTANY FLINN