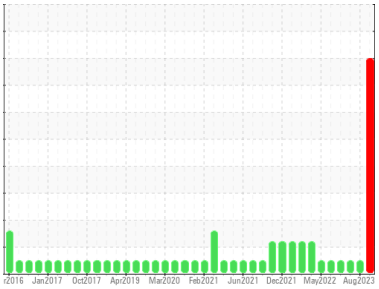
PROBLEM SUMMARY

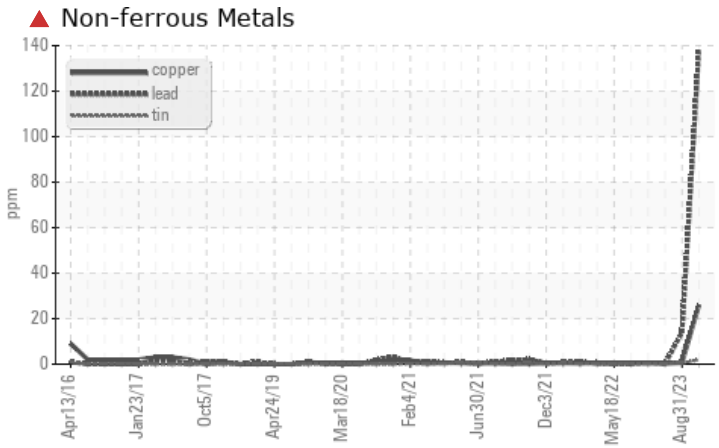
Sample Rating Trend



WEAR

Machine Id
2630C PETERBILT 567
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (48 QTS)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend that you drain the oil from the component if this has not already been 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	NORMAL	NORMAL
Lead	ppm	ASTM D5185m	>30	▲ **139**	14	<1
Copper	ppm	ASTM D5185m	>35	▲ **26**	<1	<1
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	▲ **2.1**	3.1	5.8

Customer Id: GFL001
Sample No.: GFL0117482
Lab Number: 06176514
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 from the component if this has not already been done.
Resample	---	---	?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

NORMAL

31 Aug 2023 Diag: Wes Davis
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

NORMAL

28 Mar 2023 Diag: Wes Davis
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

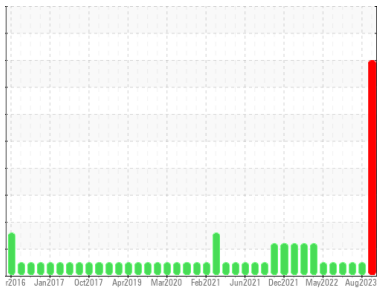
NORMAL

05 Oct 2022 Diag: Aaron Black
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
2630C PETERBILT 567
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (48 QTS)

DIAGNOSIS

▲ Recommendation
We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

▲ Wear
Bearing and/or bushing wear is indicated.

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

▲ Fluid Condition
The BN level is low. 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		**GFL0117482**	GFL0089277	GFL0056621
Sample Date		Client Info		**12 May 2024**	31 Aug 2023	28 Mar 2023
Machine Age	hrs	Client Info		**19498**	18464	1702
Oil Age	hrs	Client Info		**1034**	2148	1141
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**22**	7	5
Chromium	ppm	ASTM D5185m	>4	**2**	1	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>9	**3**	3	2
Lead	ppm	ASTM D5185m	>30	▲ **139**	14	<1
Copper	ppm	ASTM D5185m	>35	▲ **26**	<1	<1
Tin	ppm	ASTM D5185m	>4	**2**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	**17**	16	21
Barium	ppm	ASTM D5185m	5	**2**	0	0
Molybdenum	ppm	ASTM D5185m	50	**63**	54	50
Manganese	ppm	ASTM D5185m	0	**2**	<1	<1
Magnesium	ppm	ASTM D5185m	560	**662**	583	495
Calcium	ppm	ASTM D5185m	1510	**1887**	1672	1570
Phosphorus	ppm	ASTM D5185m	780	**943**	685	677
Zinc	ppm	ASTM D5185m	870	**1110**	949	952
Sulfur	ppm	ASTM D5185m	2040	**2867**	2811	2503

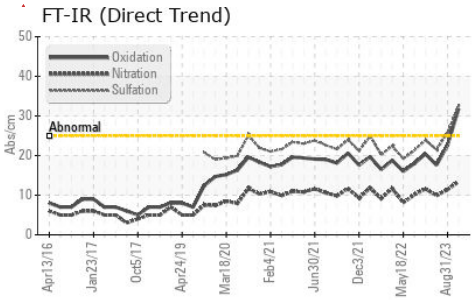
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**15**	17	39
Sodium	ppm	ASTM D5185m		**28**	18	12
Potassium	ppm	ASTM D5185m	>20	**4**	1	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**13.4**	11.4	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	**32.5**	25.7	21.5

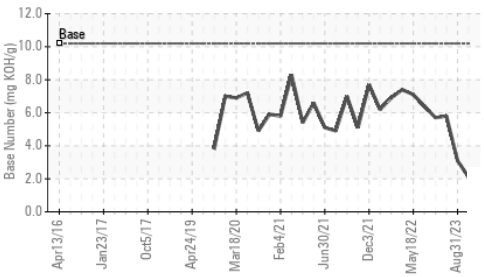
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**31.8**	22.6	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	▲ **2.1**	3.1	5.8

OIL ANALYSIS REPORT

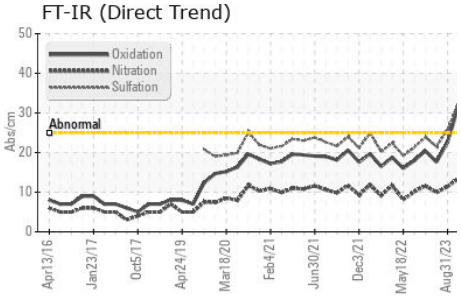
FT-IR (Direct Trend)



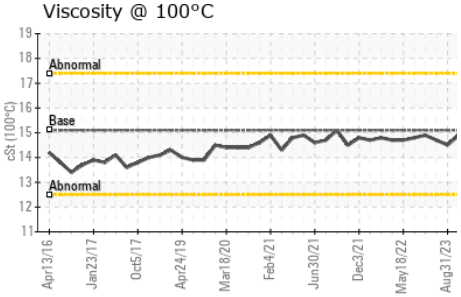
Base Number



FT-IR (Direct Trend)



Viscosity @ 100°C

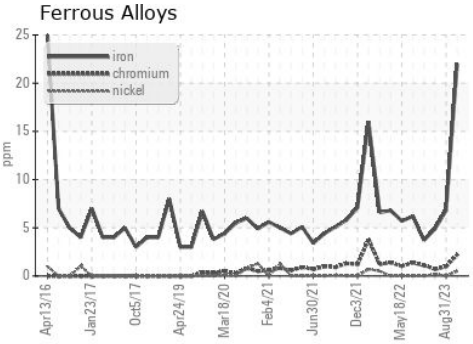


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

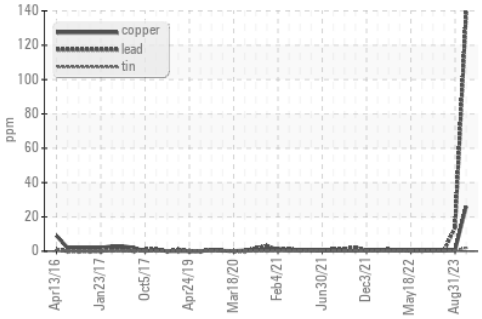
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	**14.9**	14.5	14.7

GRAPHS

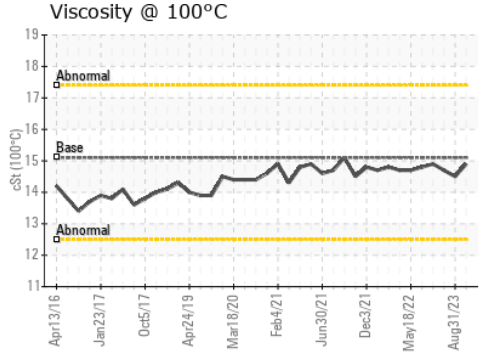
Ferrous Alloys



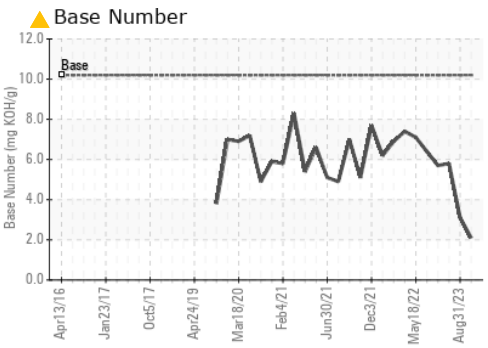
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0117482
Lab Number : 06176514
Unique Number : 11022567
Test Package : FLEET

Received : 10 May 2024
Tested : 17 May 2024
Diagnosed : 17 May 2024 - 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)

GFL Environmental - 001 - Raleigh(CNG)
3741 Conquest Drive
Garner, NC
US 27529
Contact: Craig Johnson
craig.johnson@gflenv.com
T: (919)662-7100
F: (919)662-7130