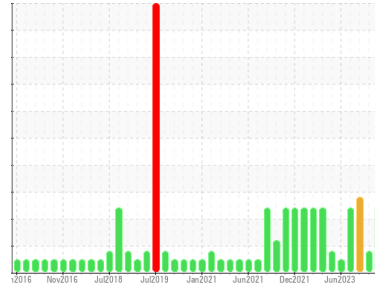




PROBLEM SUMMARY

Sample Rating Trend

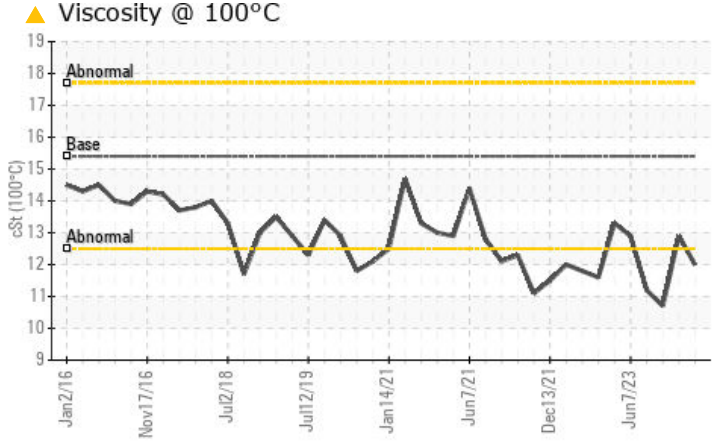
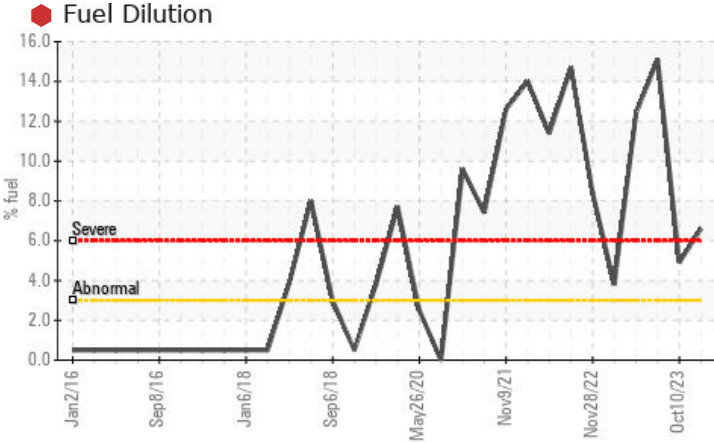


FUEL



Machine Id
FREIGHTLINER 10616e
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (6 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	SEVERE
Fuel	%	ASTM D3524	>3.0	6.6	4.9	15.1
Visc @ 100°C	cSt	ASTM D445	15.4	12.0	12.9	10.7

Customer Id: GFL331
 Sample No.: GFL0087506
 Lab Number: 06011980
 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

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

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

10 Oct 2023 Diag: Wes Davis

FUEL



We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel 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



18 Aug 2023 Diag: Wes Davis

FUEL



We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report



10 Aug 2023 Diag: Wes Davis

FUEL



We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

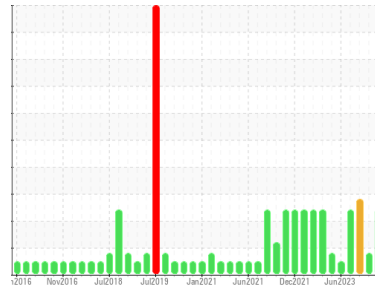
view report





OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
FREIGHTLINER 10616e
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (6 GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0087506	GFL0087459	GFL0087546
Sample Date	Client Info	17 Nov 2023	10 Oct 2023	18 Aug 2023
Machine Age	Client Info	5862	5691	5652
Oil Age	Client Info	210	39	271
Oil Changed	Client Info	Changed	Not Changd	Changed
Sample Status		SEVERE	ABNORMAL	SEVERE

CONTAMINATION

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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >90	15	25	38
Chromium	ppm ASTM D5185m >20	3	<1	3
Nickel	ppm ASTM D5185m >2	0	0	<1
Titanium	ppm ASTM D5185m >2	<1	0	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	2	2	6
Lead	ppm ASTM D5185m >40	<1	0	<1
Copper	ppm ASTM D5185m >330	<1	<1	2
Tin	ppm ASTM D5185m >15	<1	0	<1
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	17	9	6
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	59	60	53
Manganese	ppm ASTM D5185m 0	<1	0	<1
Magnesium	ppm ASTM D5185m 1010	879	824	727
Calcium	ppm ASTM D5185m 1070	1079	1085	972
Phosphorus	ppm ASTM D5185m 1150	995	920	837
Zinc	ppm ASTM D5185m 1270	1195	1135	1044
Sulfur	ppm ASTM D5185m 2060	3048	2858	2504

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	9	5	4
Sodium	ppm ASTM D5185m	1	1	0
Potassium	ppm ASTM D5185m >20	1	2	7
Fuel	% ASTM D3524 >3.0	6.6	4.9	15.1

INFRA-RED

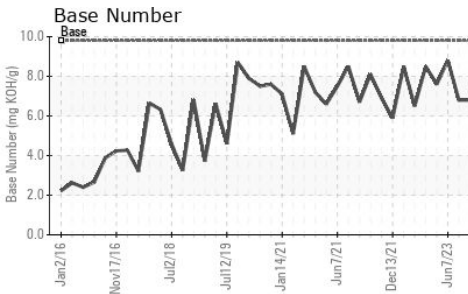
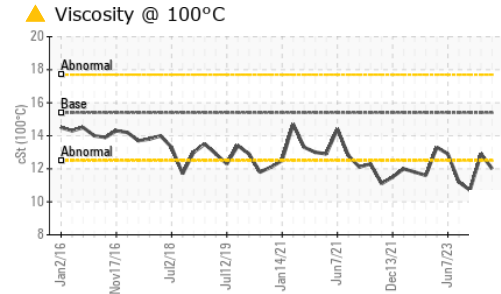
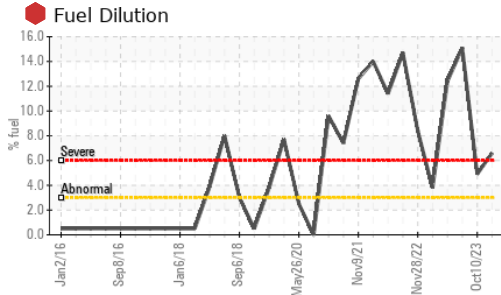
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.2	1	0.8
Nitration	Abs/cm *ASTM D7624 >20	6.7	6.6	11.0
Sulfation	Abs/.1mm *ASTM D7415 >30	18.0	18.4	20.5

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.0	13.2	19.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.5	8.2	6.8



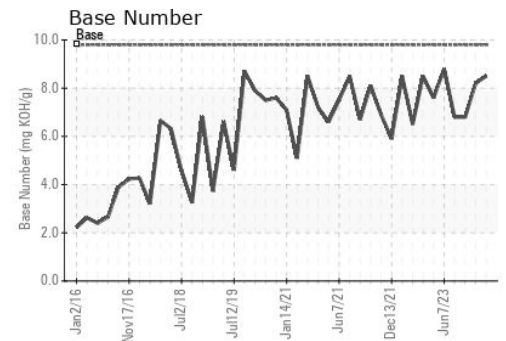
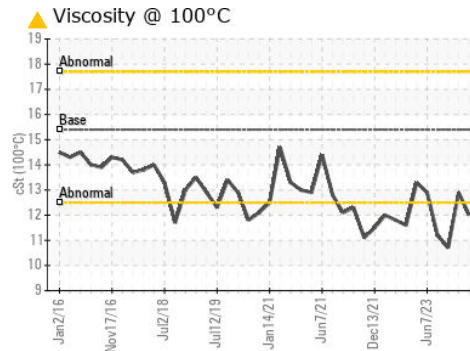
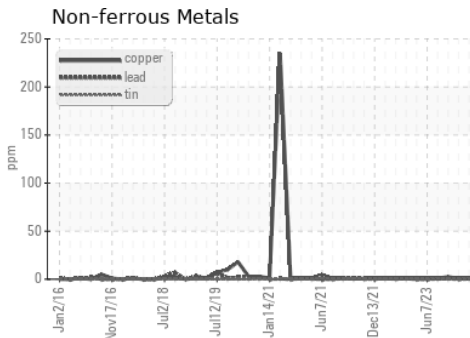
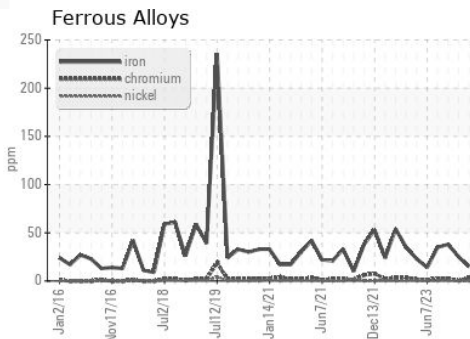
OIL ANALYSIS REPORT



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	▲ 12.0	12.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0087506
 Lab Number : 06011980
 Unique Number : 10751124
 Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 331 - Columbus
 180 Ada Moore Rd
 Columbus, NC
 US 28722
 Contact: Matt Segars
 matt.segars@gflenv.com
 T: (800)207-6618
 F: (252)617-2494

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)