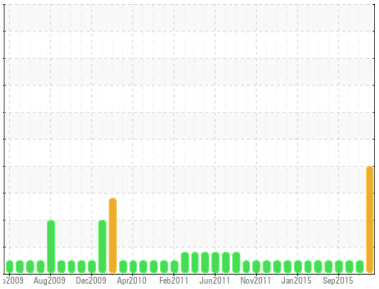
PROBLEM SUMMARY

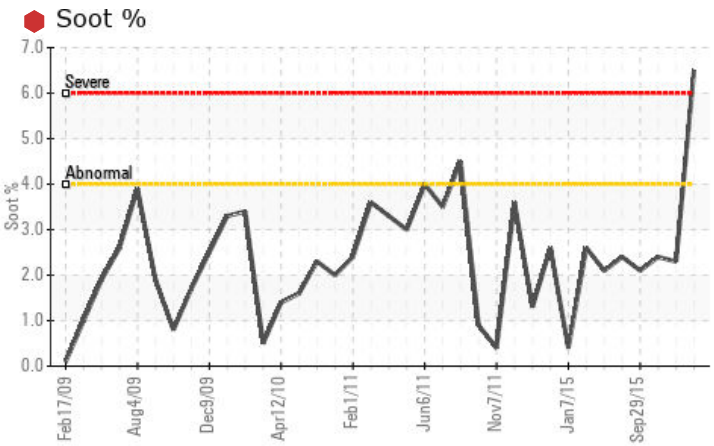
Machine Id
2276
Component
Diesel Engine
Fluid
CASTROL HYPURON 15W40 (13 GAL)

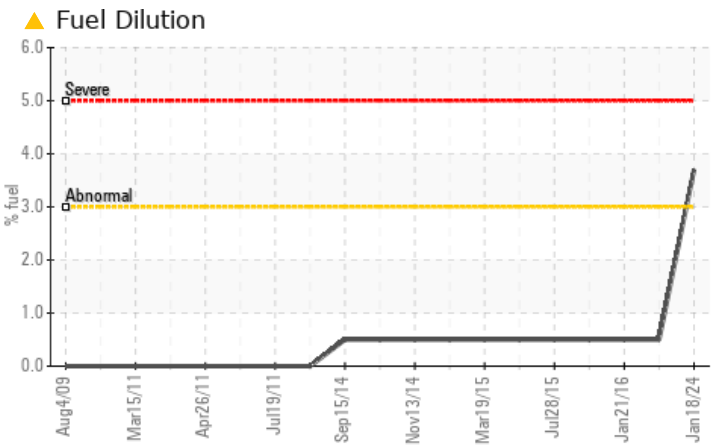
Sample Rating Trend



SOOT

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check the fuel injection system. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. 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.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	NORMAL	NORMAL
Fuel	%	ASTM D3524	>3.0	▲ **3.7**	0.5	0.5
Soot %	%	*ASTM D7844	>4	⬢ **6.5**	2.3	2.4
Base Number (BN)	mg KOH/g	ASTM D2896	11	▲ **0.0**	4.01	3.17

Customer Id: GFL654S
Sample No.: GFL0103887
Lab Number: 06065354
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
Change Filter	---	---	?	We recommend you service the filters on this component.
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.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

13 Jul 2016 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. No other corrective action is recommended at this time.All component wear rates are normal. Fuel content negligible. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report

21 Jan 2016 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. No other corrective action is recommended at this time.Metal levels are typical for a new component breaking in. Fuel content negligible. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report

29 Sep 2015 Diag: Wes Davis

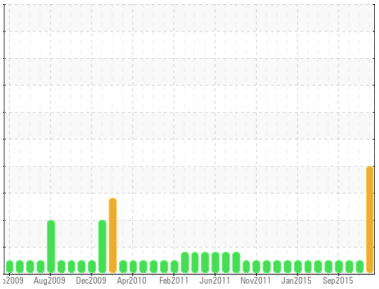
NORMAL

Resample at the next service interval to monitor. No other corrective action is recommended at this time.Metal levels are typical for a new component breaking in. Fuel content negligible. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



SOOT

Machine Id
2276
Component
Diesel Engine
Fluid
CASTROL HYPURON 15W40 (13 GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. 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.

Wear

All component wear rates are normal.

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 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		**GFL0103887**	GFLI-L33868	GFLU-908193
Sample Date		Client Info		**18 Jan 2024**	13 Jul 2016	21 Jan 2016
Machine Age	mls	Client Info		**0**	0	24857
Oil Age	mls	Client Info		**0**	0	443
Oil Changed		Client Info		**N/A**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL

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	>120	**100**	24	29
Chromium	ppm	ASTM D5185m	>20	**2**	0	0
Nickel	ppm	ASTM D5185m	>5	**<1**	1	0
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	1
Aluminum	ppm	ASTM D5185m	>20	**2**	1	1
Lead	ppm	ASTM D5185m	>40	**13**	0	1
Copper	ppm	ASTM D5185m	>330	**147**	1	1
Tin	ppm	ASTM D5185m	>15	**4**	0	0
Antimony	ppm	ASTM D5185m		**---**	0	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

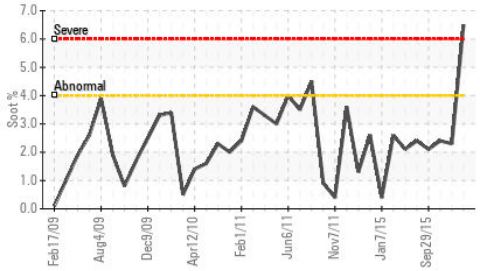
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**2**	258	281
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**60**	88	92
Manganese	ppm	ASTM D5185m		**1**	0	0
Magnesium	ppm	ASTM D5185m		**976**	329	340
Calcium	ppm	ASTM D5185m		**1010**	1476	1497
Phosphorus	ppm	ASTM D5185m		**1024**	962	933
Zinc	ppm	ASTM D5185m		**1243**	1156	1070
Sulfur	ppm	ASTM D5185m		**2551**	---	---
Lithium	ppm	ASTM D5185m		**---**	0	0

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**5**	4	5
Sodium	ppm	ASTM D5185m		**13**	2	2
Potassium	ppm	ASTM D5185m	>20	**<1**	4	3
Fuel	%	ASTM D3524	>3.0	▲ **3.7**	0.5	0.5

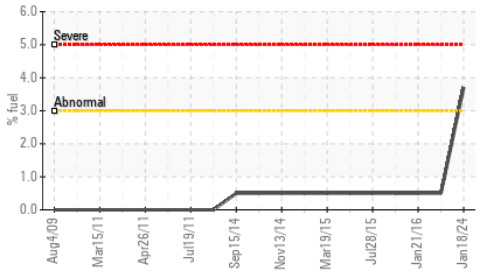
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	⬢ **6.5**	2.3	2.4
Nitration	Abs/cm	*ASTM D7624	>20	**15.4**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**32.4**	---	---

OIL ANALYSIS REPORT

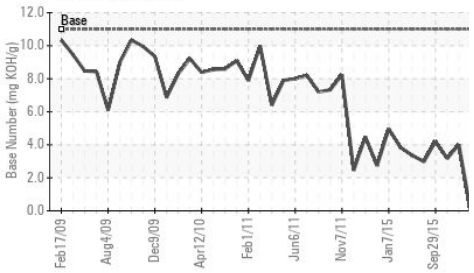
Soot %



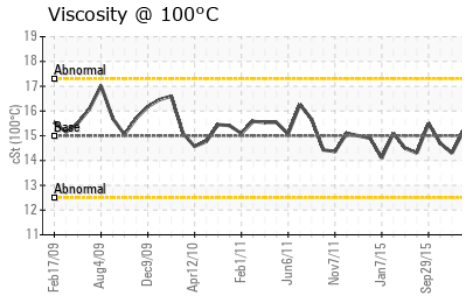
Fuel Dilution



Base Number



Viscosity @ 100°C



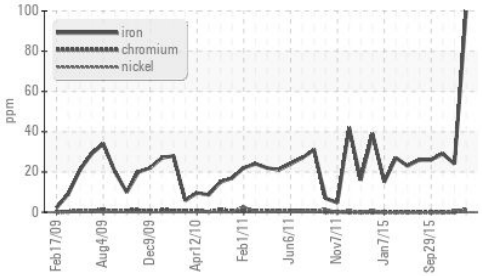
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**21.2**	13	15
Base Number (BN)	mg KOH/g	ASTM D2896	11	▲ **0.0**	4.01	3.17

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**	---	---

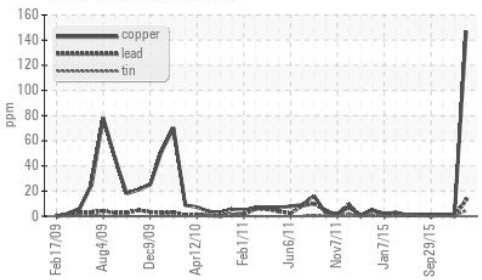
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.0	**15.2**	14.3	14.7

GRAPHS

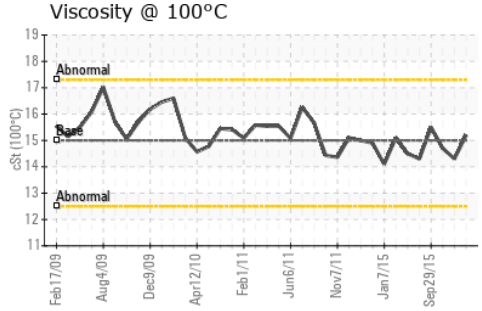
Ferrous Alloys



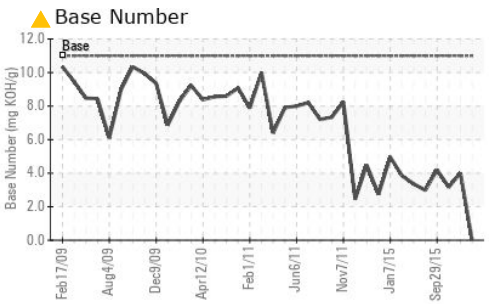
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103887
Lab Number : 06065354
Unique Number : 10836736
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Received : 19 Jan 2024
Tested : 07 Feb 2024
Diagnosed : 07 Feb 2024 - Jonathan Hester

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 23112
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