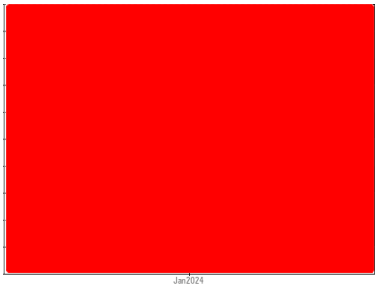
PROBLEM SUMMARY

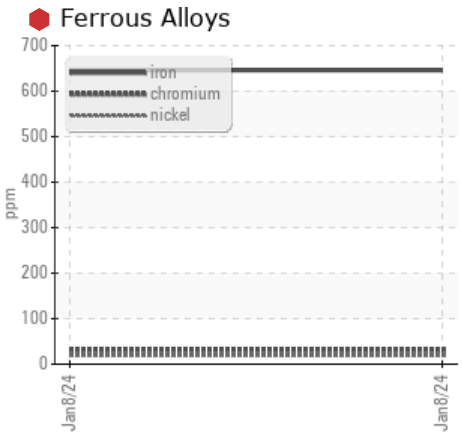
Sample Rating Trend

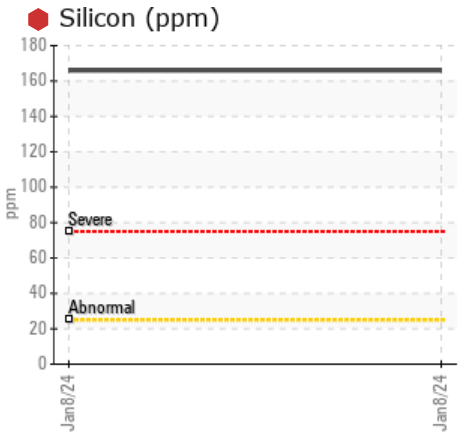


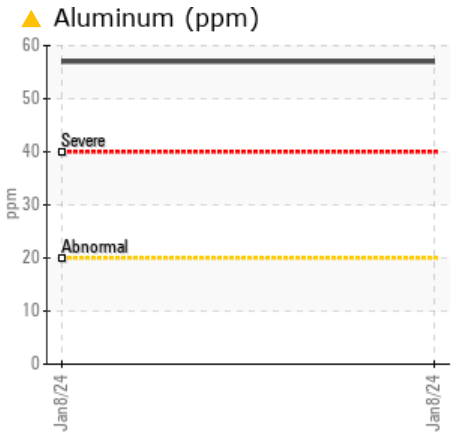
WEAR

Area
(YA171065)
Machine Id
9177
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (7 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	>90	**646**	---	---
Chromium	ppm	ASTM D5185m	>20	**31**	---	---
Nickel	ppm	ASTM D5185m	>2	**19**	---	---
Silicon	ppm	ASTM D5185m	>25	**166**	---	---

Customer Id: GFL018
Sample No.: GFL0089996
Lab Number: 06071495
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

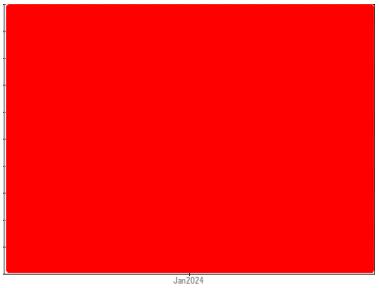
Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Change Fluid	---	---	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	---	---	?	We recommend that you drain 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

Area
(YA171065)
Machine Id
9177
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (7 GAL)

Sample Rating Trend



WEAR

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. Exhaust valve wear is indicated.

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

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0089996**	---	---
Sample Date		Client Info		**08 Jan 2024**	---	---
Machine Age	hrs	Client Info		**14749**	---	---
Oil Age	hrs	Client Info		**0**	---	---
Oil Changed		Client Info		**N/A**	---	---
Sample Status				**SEVERE**	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	---	---
Water		WC Method	>0.2	**NEG**	---	---
Glycol		WC Method		**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	**646**	---	---
Chromium	ppm	ASTM D5185m	>20	**31**	---	---
Nickel	ppm	ASTM D5185m	>2	**19**	---	---
Titanium	ppm	ASTM D5185m	>2	**2**	---	---
Silver	ppm	ASTM D5185m	>2	**0**	---	---
Aluminum	ppm	ASTM D5185m	>20	**57**	---	---
Lead	ppm	ASTM D5185m	>40	**9**	---	---
Copper	ppm	ASTM D5185m	>330	**12**	---	---
Tin	ppm	ASTM D5185m	>15	**3**	---	---
Vanadium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**13**	---	---
Barium	ppm	ASTM D5185m	10	**<1**	---	---
Molybdenum	ppm	ASTM D5185m	100	**138**	---	---
Manganese	ppm	ASTM D5185m		**8**	---	---
Magnesium	ppm	ASTM D5185m	450	**936**	---	---
Calcium	ppm	ASTM D5185m	3000	**2400**	---	---
Phosphorus	ppm	ASTM D5185m	1150	**1238**	---	---
Zinc	ppm	ASTM D5185m	1350	**1482**	---	---
Sulfur	ppm	ASTM D5185m	4250	**3051**	---	---

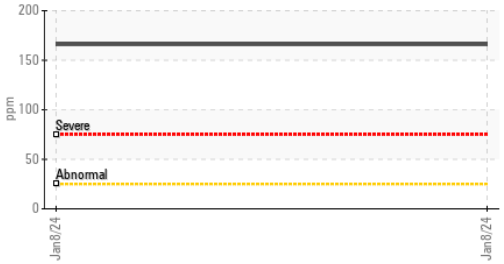
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**166**	---	---
Sodium	ppm	ASTM D5185m	>216	**20**	---	---
Potassium	ppm	ASTM D5185m	>20	**10**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.2**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**16.1**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**33.0**	---	---

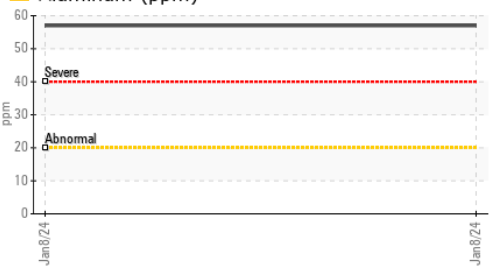
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**28.3**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**5.7**	---	---

OIL ANALYSIS REPORT

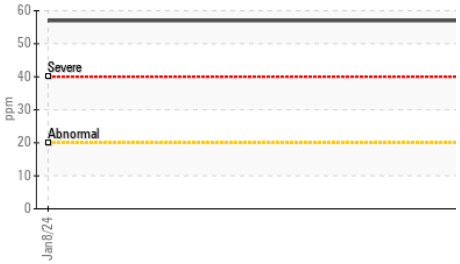
Silicon (ppm)



Aluminum (ppm)

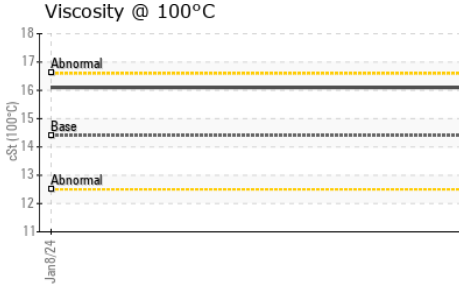


Aluminum (ppm)



Base Number

Viscosity @ 100°C

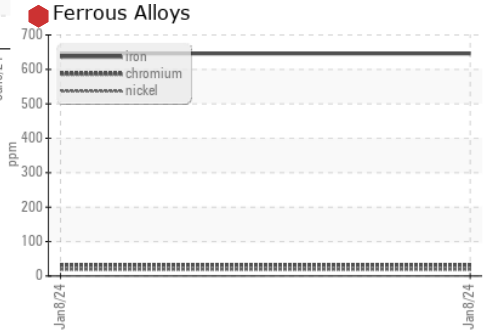


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar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

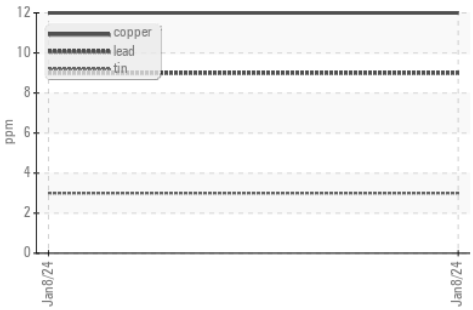
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**16.1**	---	---

GRAPHS

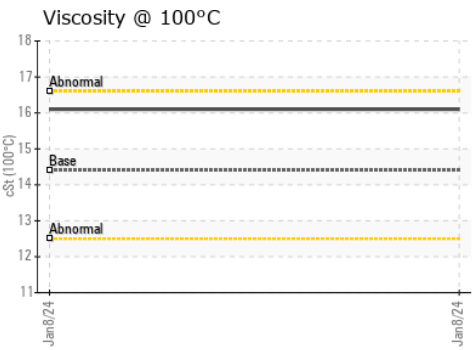
Ferrous Alloys



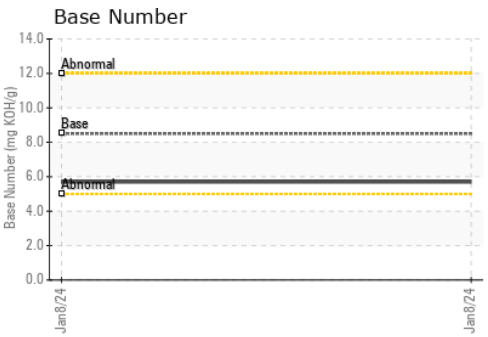
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0089996
Lab Number : 06071495
Unique Number : 10848172
Test Package : FLEET

Recieved : 26 Jan 2024
Diagnosed : 30 Jan 2024
Diagnostician : 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 - 018 - Fayetteville
4621 Marracco Drive
Hope Mills, NC
US 28348
Contact: CHRIS HALL
christopherh@gflenv.com
T:
F:

Report Id: GFL018 [WUSCAR] 06071495 (Generated: 01/31/2024 00:23:59) Rev: 1

Submitted By: Robert Carter