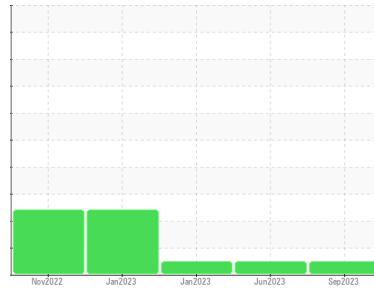




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
913032
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0091167	GFL0076971	GFL0064928
Sample Date	Client Info	28 Sep 2023	30 Jun 2023	27 Jan 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	600	600	600
Oil Changed	Client Info	Not Changed	Not Changed	Not Changed
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >120	21	16	18
Chromium	ppm ASTM D5185m >20	<1	<1	1
Nickel	ppm ASTM D5185m >5	<1	<1	6
Titanium	ppm ASTM D5185m >2	0	0	0
Silver	ppm ASTM D5185m >2	<1	0	<1
Aluminum	ppm ASTM D5185m >20	0	<1	1
Lead	ppm ASTM D5185m >40	<1	<1	<1
Copper	ppm ASTM D5185m >330	20	6	12
Tin	ppm ASTM D5185m >15	1	2	2
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 250	3	9	11
Barium	ppm ASTM D5185m 10	0	0	0
Molybdenum	ppm ASTM D5185m 100	66	67	64
Manganese	ppm ASTM D5185m	<1	1	1
Magnesium	ppm ASTM D5185m 450	1034	1040	912
Calcium	ppm ASTM D5185m 3000	1201	1179	1094
Phosphorus	ppm ASTM D5185m 1150	1047	1104	945
Zinc	ppm ASTM D5185m 1350	1360	1379	1164
Sulfur	ppm ASTM D5185m 4250	2906	3655	3253

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	8	7	8
Sodium	ppm ASTM D5185m >216	6	4	2
Potassium	ppm ASTM D5185m >20	7	6	3

INFRA-RED

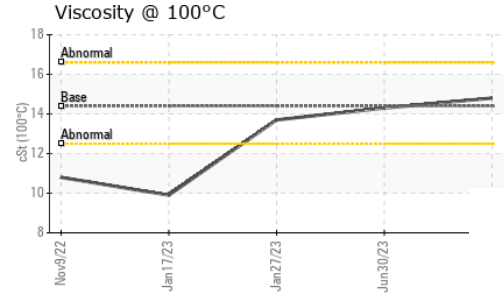
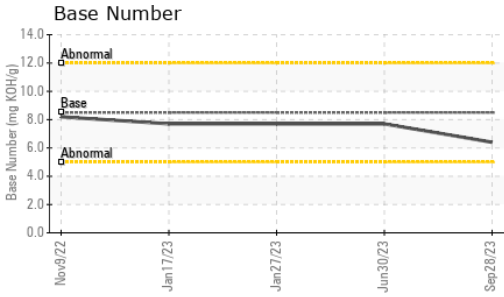
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.8	0.6	0.4
Nitration	Abs/cm *ASTM D7624 >20	11.2	10.6	8.8
Sulfation	Abs/.1mm *ASTM D7415 >30	24.1	22.8	19.9

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	21.4	19.3	16.1
Base Number (BN)	mg KOH/g ASTM D2896 8.5	6.4	7.7	7.7



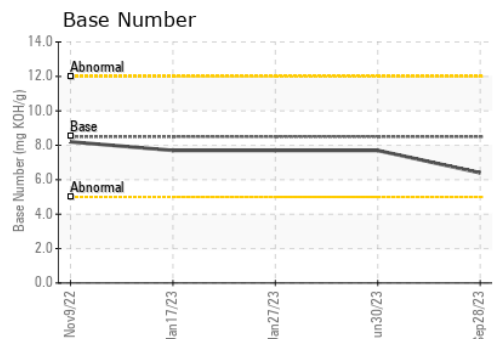
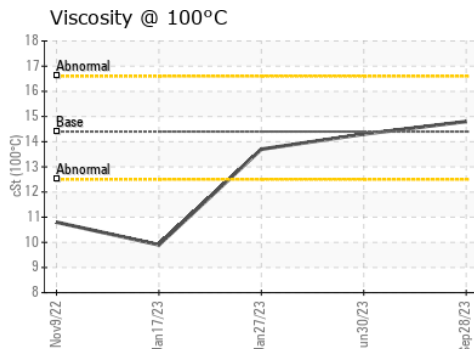
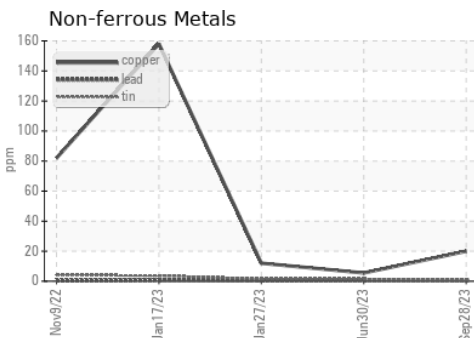
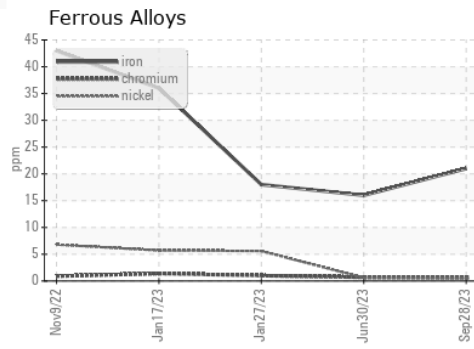
OIL ANALYSIS REPORT



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	14.4	14.8	14.3	13.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0091167 **Received** : 03 Oct 2023
Lab Number : 05967494 **Diagnosed** : 04 Oct 2023
Unique Number : 10674045 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 020 - Alamance
 703 East Gilbreath St
 Graham, NC
 US 27253
 Contact:
 richard.belcher@gflenv.com
 T: (800)207-6618
 F: (336)229-0526

Certificate L2367
 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)