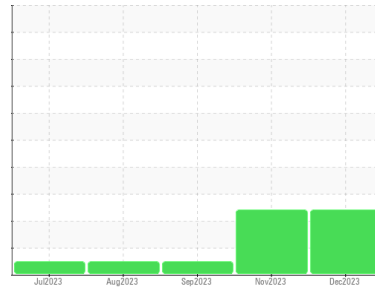




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
811070

Component
Diesel Engine
Fluid

DIESEL ENGINE OIL SAE 40 (--- LTR)

DIAGNOSIS

▲ Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

▲ Wear

All component wear rates are normal.

▲ Contamination

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

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		GFL0083097	GFL0083165	GFL0083135
Sample Date	Client Info		22 Dec 2023	08 Nov 2023	19 Sep 2023
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Changed	N/A	N/A
Sample Status			ABNORMAL	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
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	70	65	22
Chromium	ppm	ASTM D5185m >20	4	5	2
Nickel	ppm	ASTM D5185m >5	<1	<1	<1
Titanium	ppm	ASTM D5185m >2	1	2	<1
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >20	▲ 18	▲ 17	6
Lead	ppm	ASTM D5185m >40	4	3	<1
Copper	ppm	ASTM D5185m >330	4	4	1
Tin	ppm	ASTM D5185m >15	3	2	<1
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	11	3	2
Barium	ppm	ASTM D5185m 10	0	<1	0
Molybdenum	ppm	ASTM D5185m 100	65	67	60
Manganese	ppm	ASTM D5185m	1	2	<1
Magnesium	ppm	ASTM D5185m 450	871	955	906
Calcium	ppm	ASTM D5185m 3000	1324	1162	1036
Phosphorus	ppm	ASTM D5185m 1150	933	989	946
Zinc	ppm	ASTM D5185m 1350	1123	1245	1186
Sulfur	ppm	ASTM D5185m 4250	2308	2600	2827

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	▲ 50	▲ 54	19
Sodium	ppm	ASTM D5185m >216	2	0	2
Potassium	ppm	ASTM D5185m >20	1	3	<1

INFRA-RED

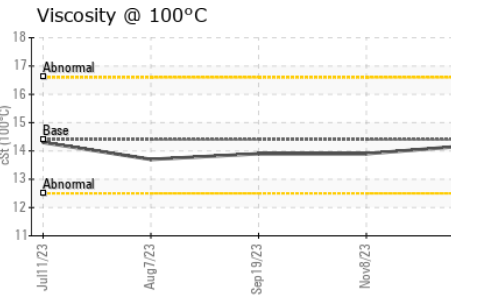
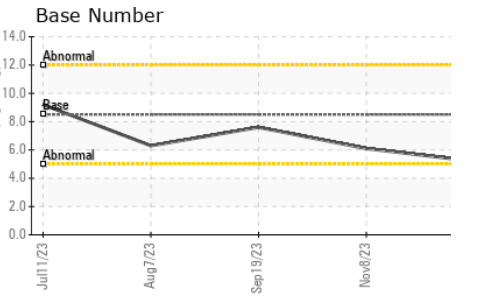
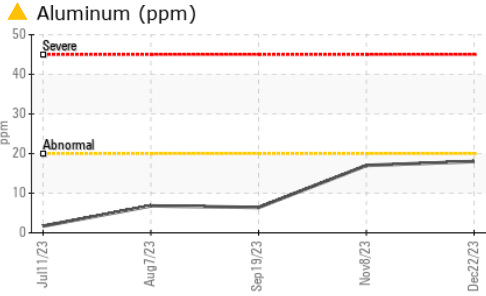
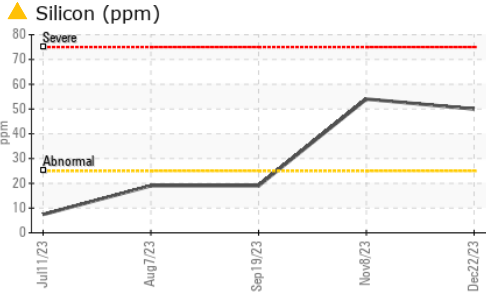
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.8	0.7	0.4
Nitration	Abs/cm	*ASTM D7624 >20	10.8	9.6	7.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.4	22.2	19.2

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.3	18.2	14.9
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	5.2	6.1	7.6



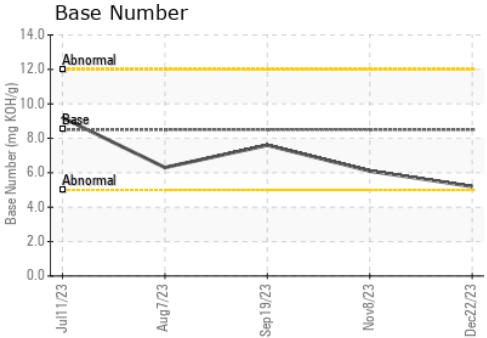
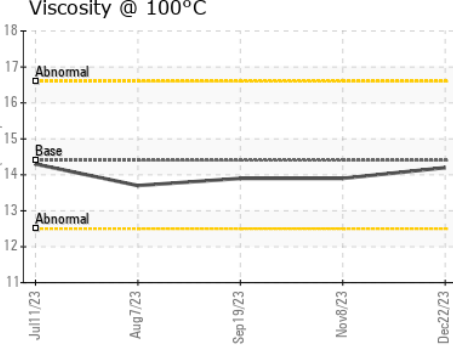
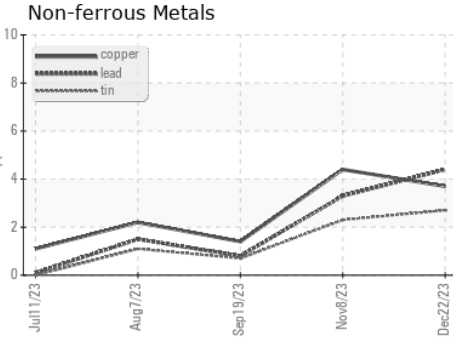
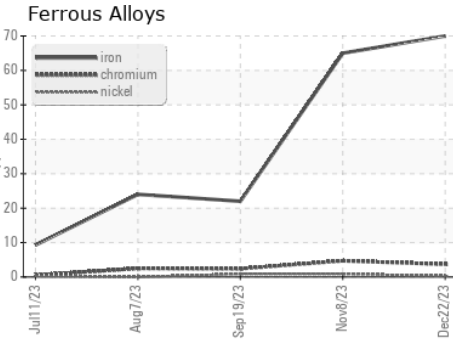
OIL ANALYSIS REPORT



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	14.2	13.9	13.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0083097 **Recieved** : 28 Dec 2023
 Lab Number : **06046760** **Diagnosed** : 29 Dec 2023
 Unique Number : 10807368 **Diagnostician** : Sean Felton
 Test Package : FLEET

GFL Environmental - 074 - Douglas - Transwaste
 1219 Landfill Road
 Douglas, GA
 US 31533
 Contact: CURTIS JACOBS
 CURTIS.JACOBS@GFLENV.COM
 T: (912)384-6001
 F:

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)