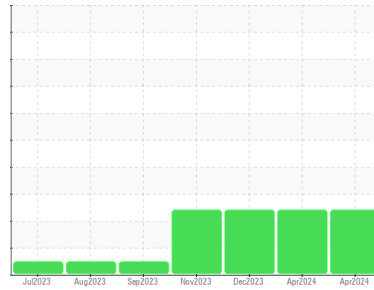




OIL ANALYSIS REPORT

Sample Rating Trend



Area
(CX20397)
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. 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	GFL0111507	GFL0111515	GFL0083097
Sample Date	Client Info	16 Apr 2024	02 Apr 2024	22 Dec 2023
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	Changed
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

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	48	69	70
Chromium	ppm ASTM D5185m >20	3	4	4
Nickel	ppm ASTM D5185m >5	<1	<1	<1
Titanium	ppm ASTM D5185m >2	1	<1	1
Silver	ppm ASTM D5185m >2	<1	0	0
Aluminum	ppm ASTM D5185m >20	11	12	18
Lead	ppm ASTM D5185m >40	4	4	4
Copper	ppm ASTM D5185m >330	5	4	4
Tin	ppm ASTM D5185m >15	2	1	3
Vanadium	ppm ASTM D5185m	<1	<1	0
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 250	10	8	11
Barium	ppm ASTM D5185m 10	0	0	0
Molybdenum	ppm ASTM D5185m 100	61	62	65
Manganese	ppm ASTM D5185m	<1	2	1
Magnesium	ppm ASTM D5185m 450	745	864	871
Calcium	ppm ASTM D5185m 3000	1365	1555	1324
Phosphorus	ppm ASTM D5185m 1150	879	1000	933
Zinc	ppm ASTM D5185m 1350	1078	1199	1123
Sulfur	ppm ASTM D5185m 4250	2594	3126	2308

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	33	43	50
Sodium	ppm ASTM D5185m >216	4	3	2
Potassium	ppm ASTM D5185m >20	4	0	1

INFRA-RED

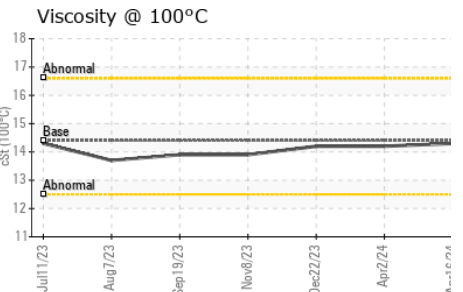
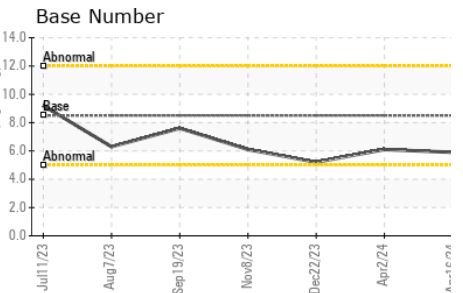
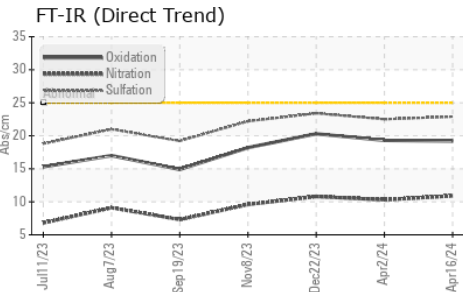
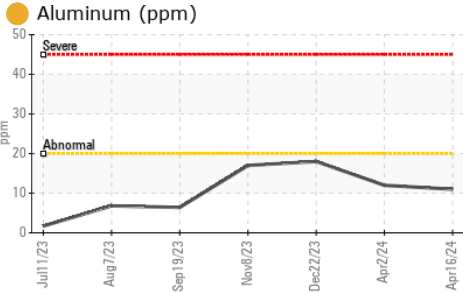
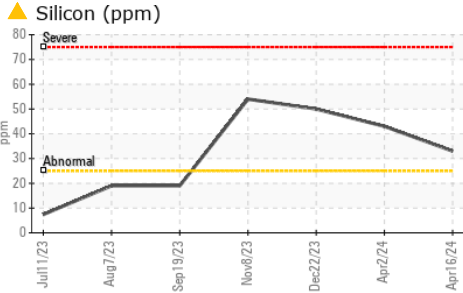
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.5	0.5	0.8
Nitration	Abs/cm *ASTM D7624 >20	10.9	10.3	10.8
Sulfation	Abs/.1mm *ASTM D7415 >30	22.9	22.5	23.4

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	19.2	19.3	20.3
Base Number (BN)	mg KOH/g ASTM D2896 8.5	5.9	6.1	5.2



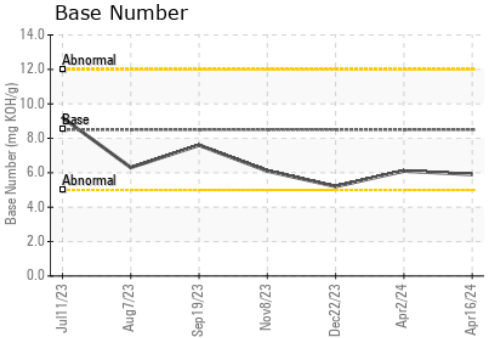
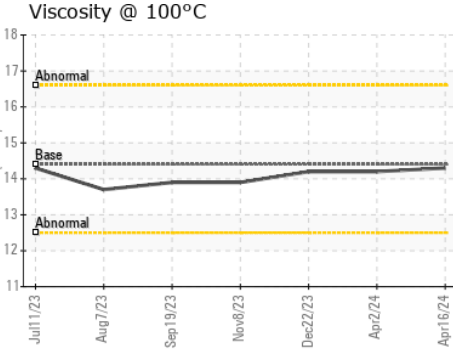
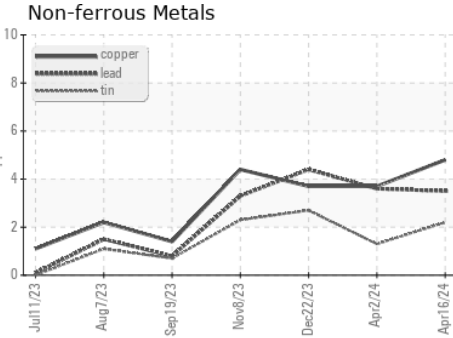
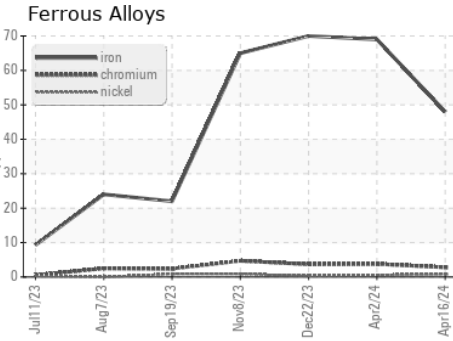
OIL ANALYSIS REPORT



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	14.3	14.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0111507
Lab Number : 06153990
Unique Number : 10989413
Test Package : FLEET

GFL Environmental - 074 - Douglas - Transwaste
 1219 Landfill Road
 Douglas, GA
 US 31533

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)