



OIL ANALYSIS REPORT

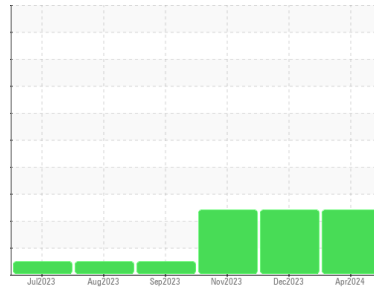
Area
(CX20397)

Machine Id
811070

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 40 (--- LTR)

Sample Rating Trend



DIRT



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		GFL0111515	GFL0083097	GFL0083165
Sample Date	Client Info		02 Apr 2024	22 Dec 2023	08 Nov 2023
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	Changed	N/A
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	69	70	65
Chromium	ppm	ASTM D5185m >20	4	4	5
Nickel	ppm	ASTM D5185m >5	<1	<1	<1
Titanium	ppm	ASTM D5185m >2	<1	1	2
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >20	12	18	17
Lead	ppm	ASTM D5185m >40	4	4	3
Copper	ppm	ASTM D5185m >330	4	4	4
Tin	ppm	ASTM D5185m >15	1	3	2
Vanadium	ppm	ASTM D5185m	<1	0	<1
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	8	11	3
Barium	ppm	ASTM D5185m 10	0	0	<1
Molybdenum	ppm	ASTM D5185m 100	62	65	67
Manganese	ppm	ASTM D5185m	2	1	2
Magnesium	ppm	ASTM D5185m 450	864	871	955
Calcium	ppm	ASTM D5185m 3000	1555	1324	1162
Phosphorus	ppm	ASTM D5185m 1150	1000	933	989
Zinc	ppm	ASTM D5185m 1350	1199	1123	1245
Sulfur	ppm	ASTM D5185m 4250	3126	2308	2600

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	43	50	54
Sodium	ppm	ASTM D5185m >216	3	2	0
Potassium	ppm	ASTM D5185m >20	0	1	3

INFRA-RED

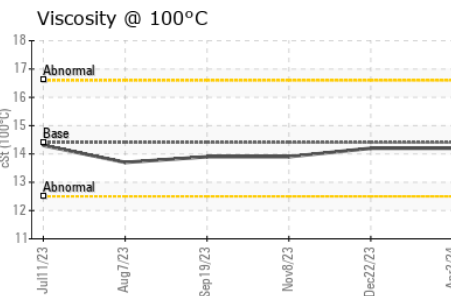
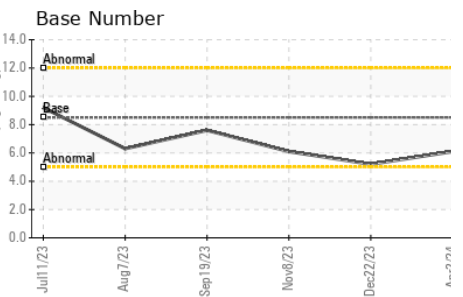
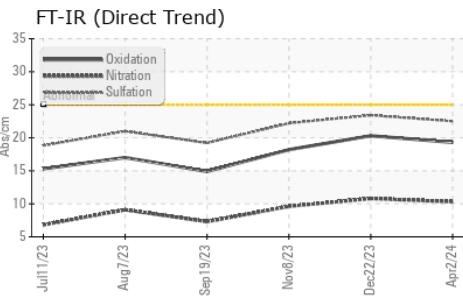
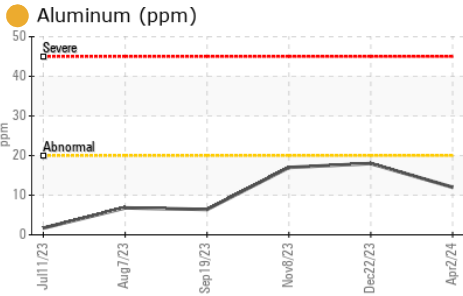
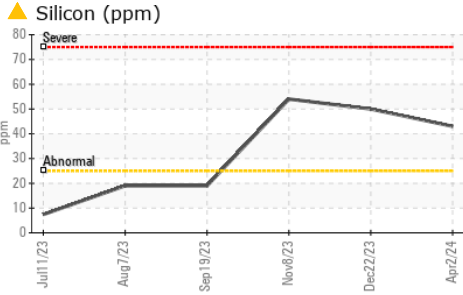
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.5	0.8	0.7
Nitration	Abs/cm	*ASTM D7624 >20	10.3	10.8	9.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.5	23.4	22.2

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	19.3	20.3	18.2
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	6.1	5.2	6.1



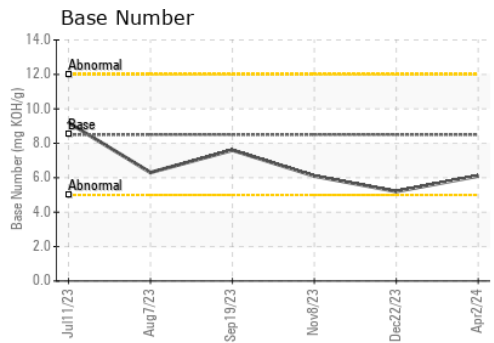
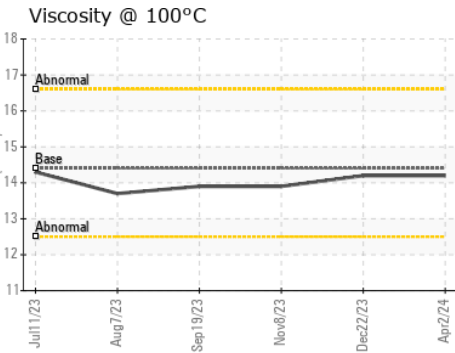
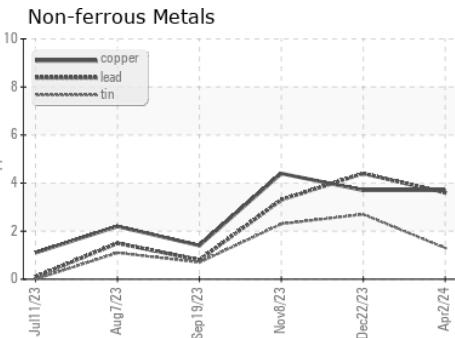
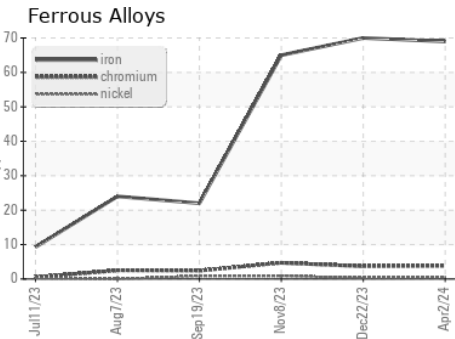
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VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE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

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0111515
Lab Number : 06142743
Unique Number : 10967551
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

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)