



OIL ANALYSIS REPORT

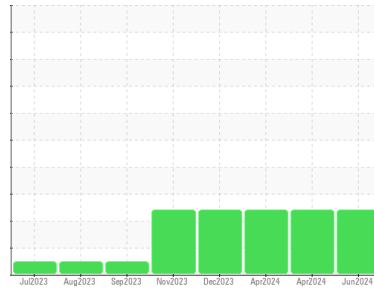
Area
(CX20397)

Machine Id
811070

Component
Diesel Engine

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

Sample Rating Trend



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			GFL0111529	GFL0111507	GFL0111515
Sample Date	Client Info			13 Jun 2024	16 Apr 2024	02 Apr 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	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	52	48	69
Chromium	ppm	ASTM D5185m	>20	2	3	4
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	1	1	<1
Silver	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	8	11	12
Lead	ppm	ASTM D5185m	>40	8	4	4
Copper	ppm	ASTM D5185m	>330	7	5	4
Tin	ppm	ASTM D5185m	>15	4	2	1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		<1	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	25	10	8
Barium	ppm	ASTM D5185m	10	<1	0	0
Molybdenum	ppm	ASTM D5185m	100	65	61	62
Manganese	ppm	ASTM D5185m		1	<1	2
Magnesium	ppm	ASTM D5185m	450	750	745	864
Calcium	ppm	ASTM D5185m	3000	1596	1365	1555
Phosphorus	ppm	ASTM D5185m	1150	924	879	1000
Zinc	ppm	ASTM D5185m	1350	1111	1078	1199
Sulfur	ppm	ASTM D5185m	4250	2349	2594	3126

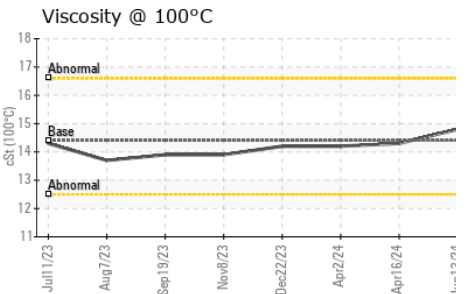
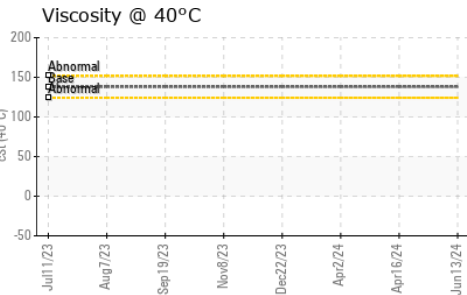
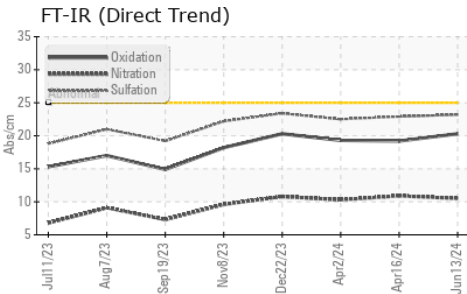
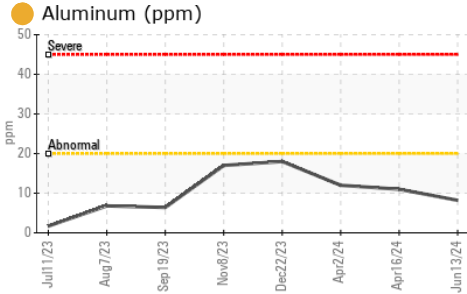
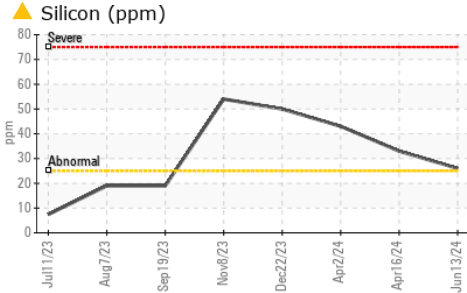
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ 26	▲ 33	▲ 43
Sodium	ppm	ASTM D5185m	>216	2	4	3
Potassium	ppm	ASTM D5185m	>20	3	4	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	0.5	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	10.5	10.9	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.2	22.9	22.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.3	19.2	19.3
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.8	5.9	6.1



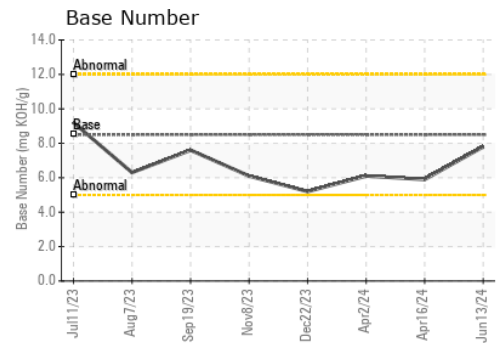
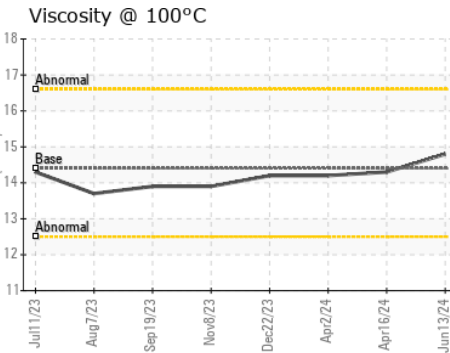
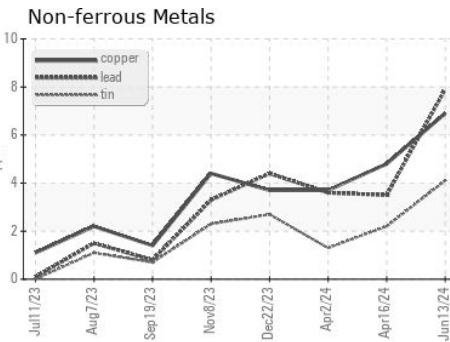
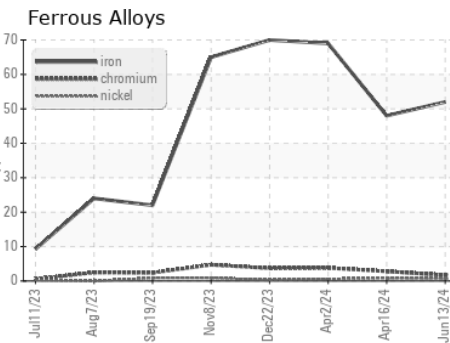
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VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
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	14.8	14.3

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0111529

Lab Number : 06226008

Unique Number : 11109501

Test Package : FLEET (Additional Tests: KV40)

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)

Received : 02 Jul 2024

Tested : 05 Jul 2024

Diagnosed : 05 Jul 2024 - Jonathan Hester

GFL Environmental - 074 - Douglas - Transwaste

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Douglas, GA

US 31533

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