



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
(YA156314) GFL035

Machine Id
810011

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 40 (38 QTS)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0116414	GFL0102355	GFL0071625
Sample Date		Client Info		01 Apr 2024	01 Feb 2024	10 Oct 2023
Machine Age	mls	Client Info		91647	440	440
Oil Age	mls	Client Info		0	600	600
Filter Age	mls	Client Info		0	0	600
Oil Changed		Client Info		N/A	Not Changed	Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	8	4	35
Chromium	ppm	ASTM D5185m	>5	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	0	0	3
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	3	1
Lead	ppm	ASTM D5185m	>25	0	0	<1
Copper	ppm	ASTM D5185m	>100	42	0	▲ 215
Tin	ppm	ASTM D5185m	>4	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

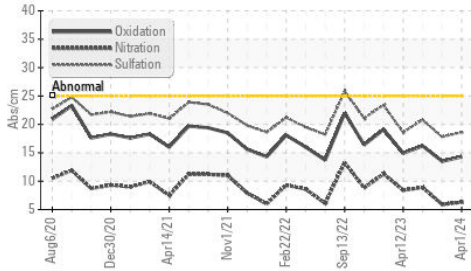
Silicon	ppm	ASTM D5185m	>25	4	2	13
Potassium	ppm	ASTM D5185m	>20	3	2	▲ 249
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	▲ 0.10
Soot %	%	*ASTM D7844	>6	0.1	0.3	0.6
Nitration	Abs/cm	*ASTM D7624	>20	6.3	5.9	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.6	17.8	20.8
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

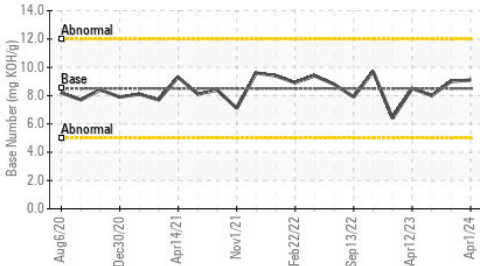
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	7	1	▲ 250
Boron	ppm	ASTM D5185m	250	3	0	5
Barium	ppm	ASTM D5185m	10	0	<1	2
Molybdenum	ppm	ASTM D5185m	100	64	59	70
Manganese	ppm	ASTM D5185m		<1	<1	2
Magnesium	ppm	ASTM D5185m	450	1048	944	906
Calcium	ppm	ASTM D5185m	3000	1172	1078	1046
Phosphorus	ppm	ASTM D5185m	1150	1190	1063	991
Zinc	ppm	ASTM D5185m	1350	1377	1278	1245
Sulfur	ppm	ASTM D5185m	4250	3751	3095	2996
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.3	13.5	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	9.1	9.0	8.0
Visc @ 100°C	cSt	ASTM D445	14.4	14.2	14.0	14.1

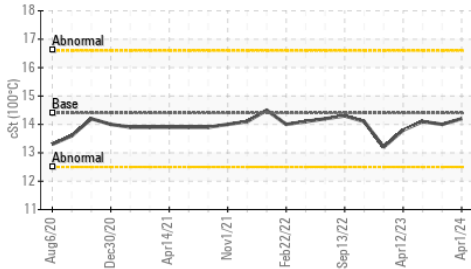
FT-IR (Direct Trend)



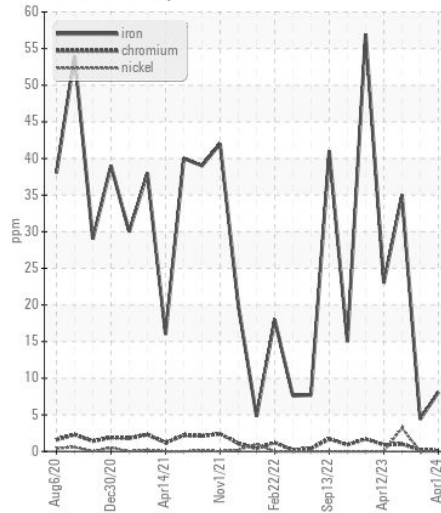
Base Number



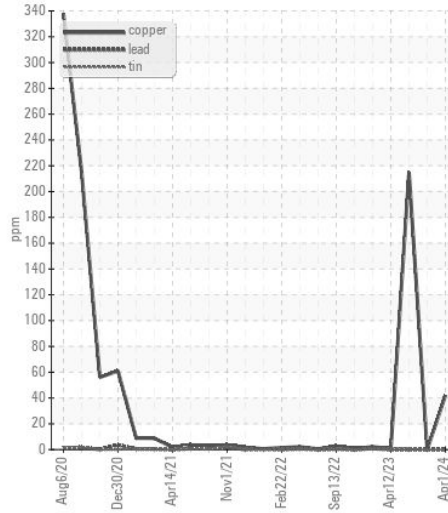
Viscosity @ 100°C



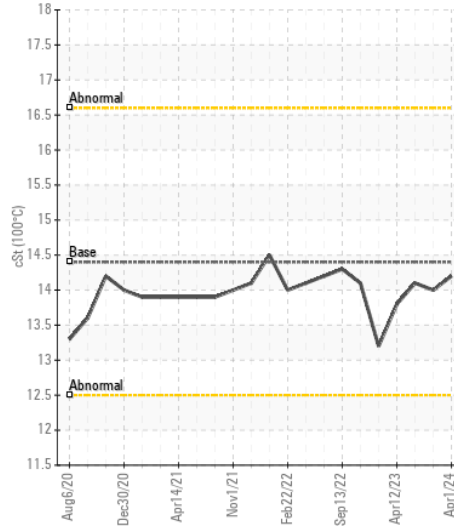
Ferrous Alloys



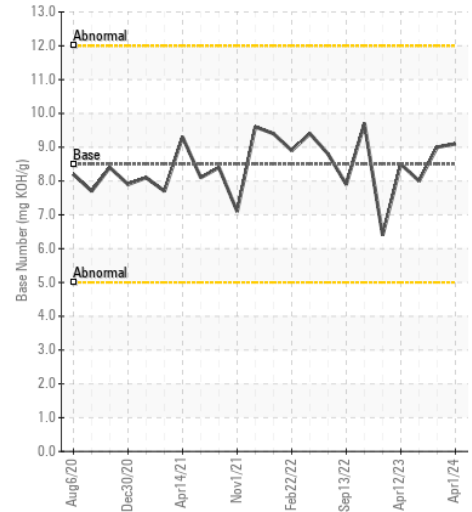
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0116414
Lab Number : 06150031
Unique Number : 10980109
Test Package : FLEET

Received : 16 Apr 2024
Tested : 17 Apr 2024
Diagnosed : 17 Apr 2024 - Wes Davis

GFL Environmental - 035 - Greensboro
 1236 Elon Place
 High Point, NC
 US 27263
 Contact: JORGE COSTA
 jorge.costa@gflenv.com
 T: (336)668-3712
 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)