FLEET LUBE 360 OIL DIAGNOSTICS

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
522013-1087
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

The lead level is abnormal. All other component wear rates are normal.

CONTAMINATION

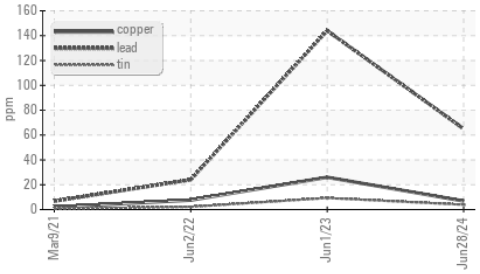
No evidence of coolant present in the oil. There is no indication of any contamination in the oil.

FLUID CONDITION

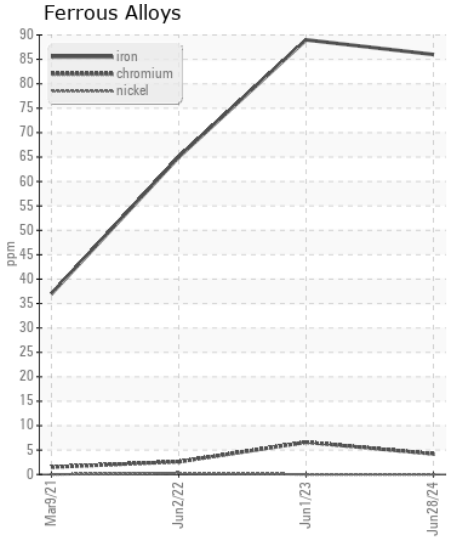
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0122760	GFL0073492	GFL0051017
Sample Date		Client Info		28 Jun 2024	01 Jun 2023	02 Jun 2022
Machine Age	hrs	Client Info		21364	19846	18401
Oil Age	hrs	Client Info		1516	600	600
Filter Age	hrs	Client Info		1516	600	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	SEVERE	NORMAL
Iron	ppm	ASTM D5185m	>100	86	89	65
Chromium	ppm	ASTM D5185m	>20	4	7	3
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	5	6	4
Lead	ppm	ASTM D5185m	>40	▲ 65	▲ 144	24
Copper	ppm	ASTM D5185m	>330	7	26	8
Tin	ppm	ASTM D5185m	>15	4	9	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	14	43	6
Potassium	ppm	ASTM D5185m	>20	9	▲ 67	2
Fuel		WC Method	>5	<1.0	<1.0	0.1
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	▲ 0.10	NEG
Soot %	%	*ASTM D7844	>3	2.5	1.5	2.2
Nitration	Abs/cm	*ASTM D7624	>20	13.8	14.9	13.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.5	27.0	28.1
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
Sodium	ppm	ASTM D5185m		5	▲ 445	3
Boron	ppm	ASTM D5185m	316	20	11	18
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	62	91	73
Manganese	ppm	ASTM D5185m		<1	3	<1
Magnesium	ppm	ASTM D5185m	24	765	619	954
Calcium	ppm	ASTM D5185m	2292	1298	1683	1375
Phosphorus	ppm	ASTM D5185m	1064	977	860	1058
Zinc	ppm	ASTM D5185m	1160	1229	1166	1307
Sulfur	ppm	ASTM D5185m	4996	2555	3002	2916
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.3	23.8	21.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	6.1	6.9	7.4
Visc @ 100°C	cSt	ASTM D445	15.7	14.8	14.4	14.9

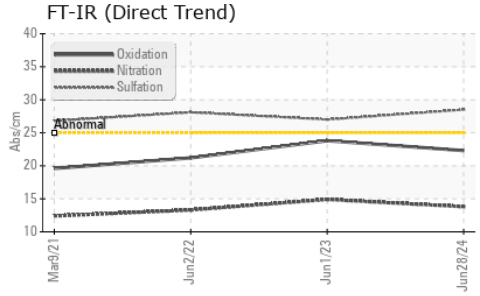
Non-ferrous Metals



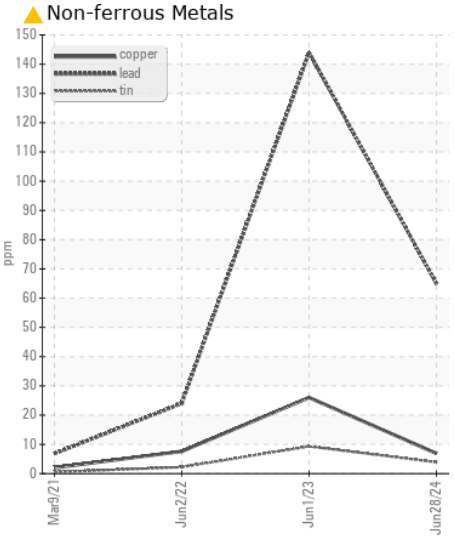
Ferrous Alloys



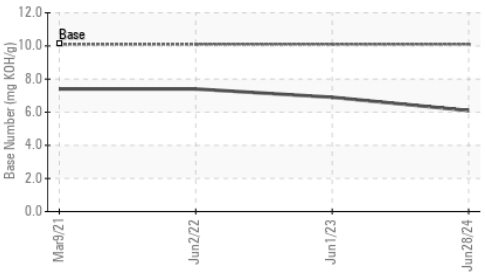
FT-IR (Direct Trend)



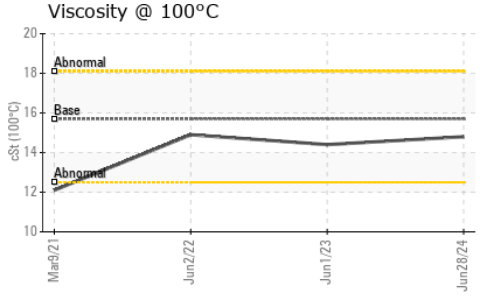
Non-ferrous Metals



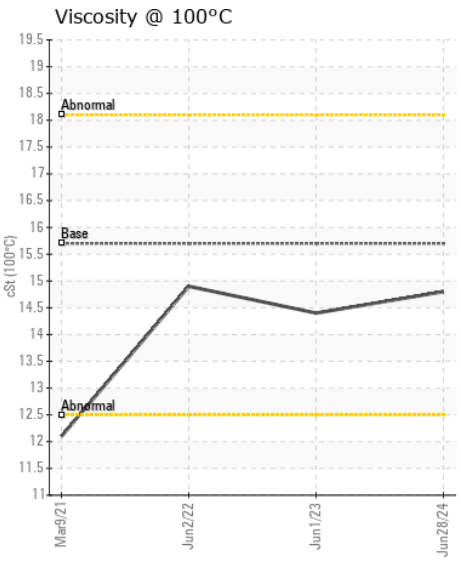
Base Number



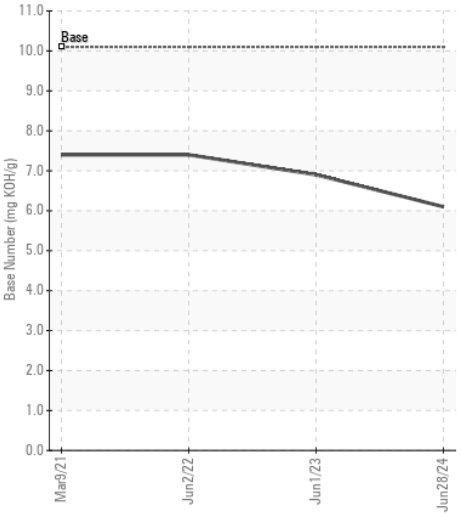
Viscosity @ 100°C



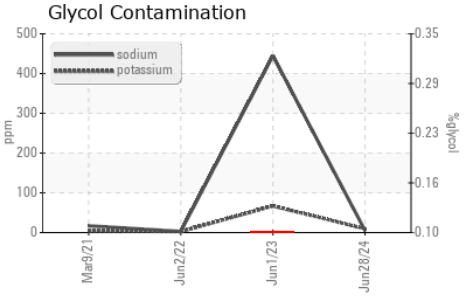
Viscosity @ 100°C



Base Number



Glycol Contamination



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0122760
Lab Number : 06227038
Unique Number : 11110531
Test Package : FLEET

Received : 03 Jul 2024
Tested : 05 Jul 2024
Diagnosed : 05 Jul 2024 - Jonathan Hester

GFL Environmental - 629 - Northern A1
3947 US 131 N
Kalkaska, MI
US 49646-8428
Contact: MITCH HERSHBERGER

T: (231)624-0848
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)