



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
914031
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

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		GFL0123022	GFL0123040	GFL0119417
Sample Date		Client Info		11 Jun 2024	22 May 2024	30 Apr 2024
Machine Age	hrs	Client Info		1889	1745	1591
Oil Age	hrs	Client Info		144	154	66
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	17	13	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	5	4	5
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	2	<1	1
Lead	ppm	ASTM D5185m	>40	0	0	2
Copper	ppm	ASTM D5185m	>330	71	58	39
Tin	ppm	ASTM D5185m	>15	<1	0	2
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.

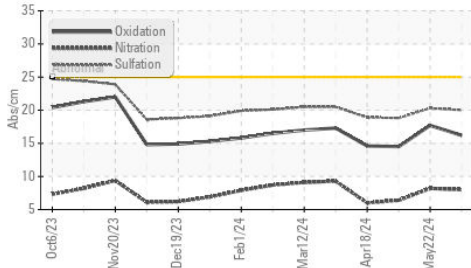
Silicon	ppm	ASTM D5185m	>25	5	0	4
Potassium	ppm	ASTM D5185m	>20	3	0	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.0	8.2	6.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.0	20.3	18.8
Silt	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

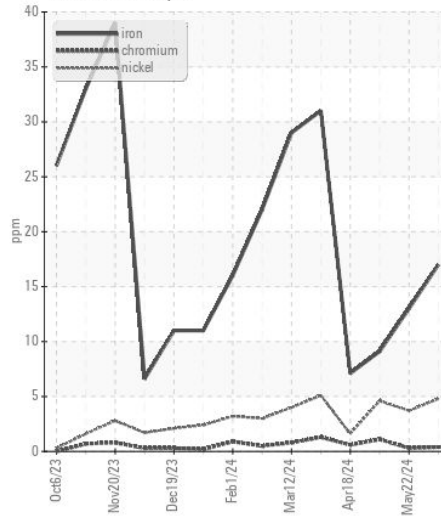
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>216	5	3	3
Boron	ppm	ASTM D5185m	250	10	2	8
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	63	61	55
Manganese	ppm	ASTM D5185m		1	<1	1
Magnesium	ppm	ASTM D5185m	450	933	923	1001
Calcium	ppm	ASTM D5185m	3000	1111	1114	1153
Phosphorus	ppm	ASTM D5185m	1150	1019	985	1088
Zinc	ppm	ASTM D5185m	1350	1239	1186	1297
Sulfur	ppm	ASTM D5185m	4250	3013	3052	3706
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.2	17.7	14.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.2	7.7	8.0
Visc @ 100°C	cSt	ASTM D445	14.4	13.7	13.4	13.9

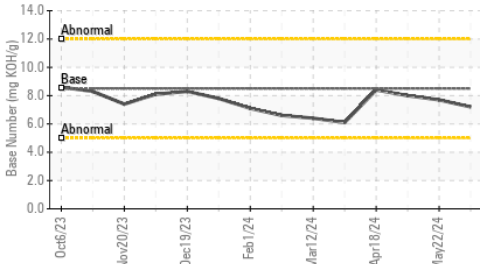
FT-IR (Direct Trend)



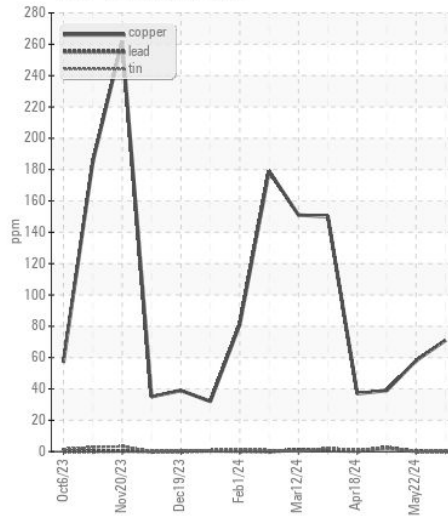
Ferrous Alloys



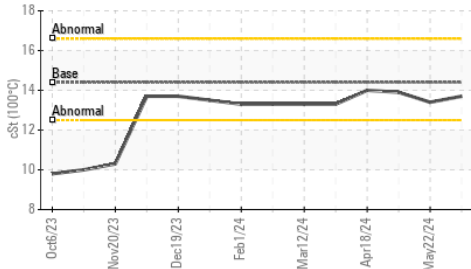
Base Number



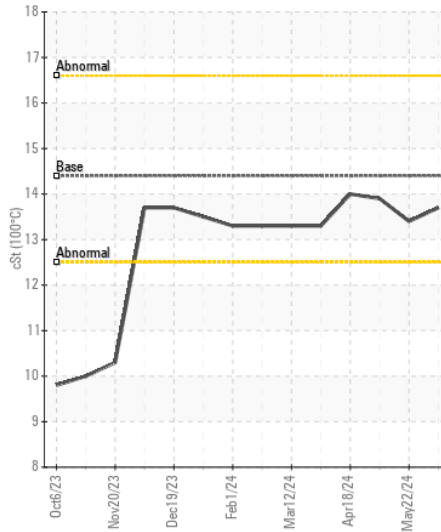
Non-ferrous Metals



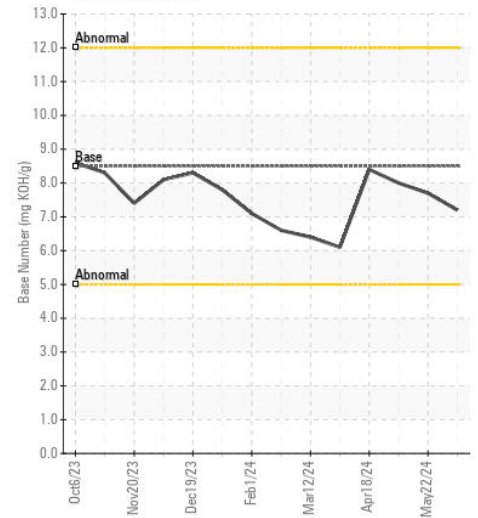
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0123022
Lab Number : 06212869
Unique Number : 11085733
Test Package : FLEET

Received : 17 Jun 2024
Tested : 19 Jun 2024
Diagnosed : 19 Jun 2024 - Wes Davis

GFL Environmental - 814 - Little Rock Hauling
 4005 Hwy 161 N.
 Little Rock, AR
 US 72117
 Contact: Michael Lovin
 mlovin@gflenv.com

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)

T:
F: