



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Area
(F985HW)
Machine Id
428087
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (9 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		GFL0098903	GFL0099031	GFL0098960
Sample Date		Client Info		02 May 2024	13 Feb 2024	23 Jan 2024
Machine Age	hrs	Client Info		10560	10405	10260
Oil Age	hrs	Client Info		10260	10260	9102
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	17	3	11
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	1	1
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	2	0	1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	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.

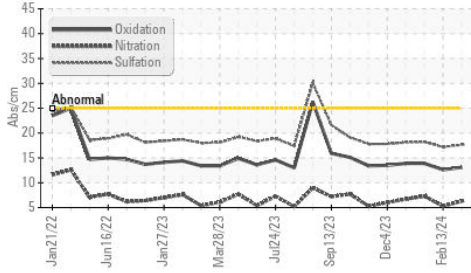
Silicon	ppm	ASTM D5185m	>25	6	3	6
Potassium	ppm	ASTM D5185m	>20	3	0	<1
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	6.3	5.3	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.6	17.2	18.2
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

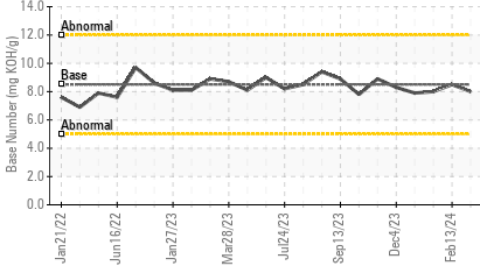
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<1	<1	<1
Boron	ppm	ASTM D5185m	250	0	1	0
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	57	50	56
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	450	890	781	1004
Calcium	ppm	ASTM D5185m	3000	1239	1093	1086
Phosphorus	ppm	ASTM D5185m	1150	1103	993	1050
Zinc	ppm	ASTM D5185m	1350	1265	1136	1258
Sulfur	ppm	ASTM D5185m	4250	3434	2857	3161
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.1	12.6	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	8.0	8.5	8.0
Visc @ 100°C	cSt	ASTM D445	14.4	12.8	12.9	13.0

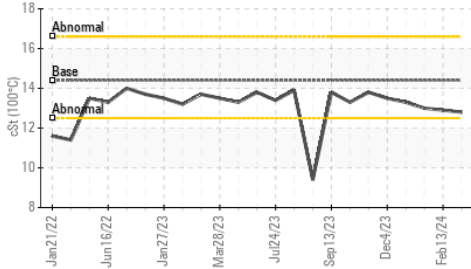
FT-IR (Direct Trend)



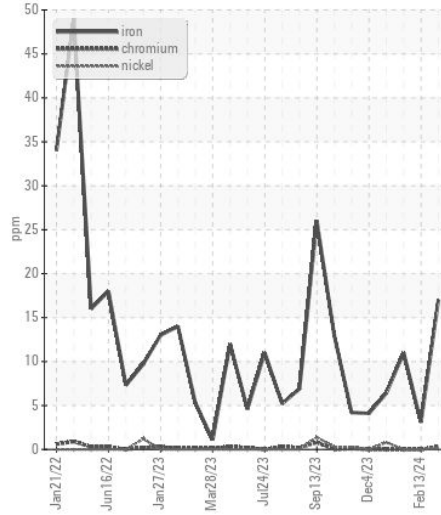
Base Number



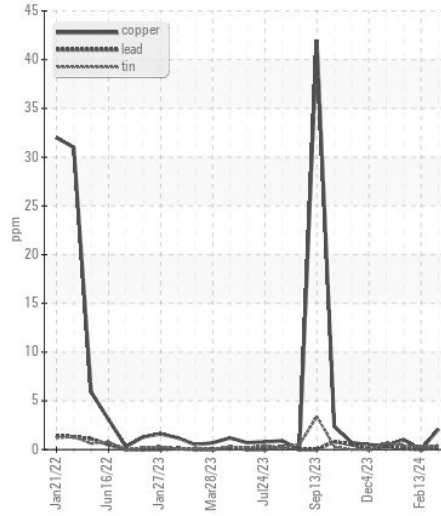
Viscosity @ 100°C



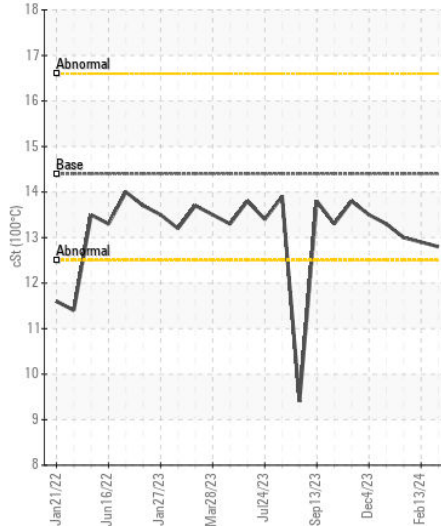
Ferrous Alloys



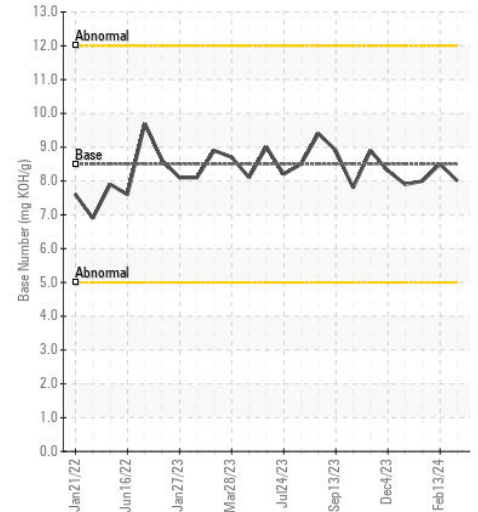
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0098903
Lab Number : 06174955
Unique Number : 11021008
Test Package : FLEET

Received : 09 May 2024
Tested : 10 May 2024
Diagnosed : 10 May 2024 - Wes Davis

GFL Environmental - 084 - Clarksville
 699 Jack Miller Boulevard
 Clarksville, TN
 US 37042

Contact: ROBERT THIBAUT
 robert.thibault@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)

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