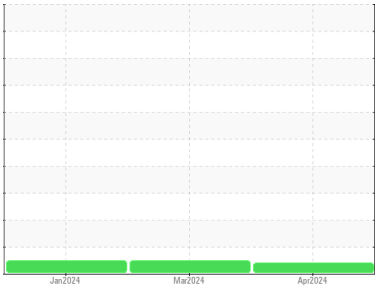
OIL ANALYSIS REPORT

Area
{UNASSIGNED}
Machine Id
814041
Component
1 Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 5W30 (12 GAL)

Sample Rating Trend



VISCOSITY

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0118170**	GFL0109130	GFL0109217
Sample Date		Client Info		**08 Apr 2024**	13 Mar 2024	28 Jan 2024
Machine Age	hrs	Client Info		**758**	609	302
Oil Age	hrs	Client Info		**149**	600	302
Oil Changed		Client Info		**N/A**	Changed	Not Changd
Sample Status				**ATTENTION**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	0.4
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	**4**	41	31
Chromium	ppm	ASTM D5185m	>20	**0**	<1	1
Nickel	ppm	ASTM D5185m	>5	**<1**	13	10
Titanium	ppm	ASTM D5185m	>2	**0**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	5	6
Lead	ppm	ASTM D5185m	>40	**<1**	2	<1
Copper	ppm	ASTM D5185m	>330	**0**	276	41
Tin	ppm	ASTM D5185m	>15	**<1**	1	2
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	**2**	200	359
Barium	ppm	ASTM D5185m	10	**0**	0	0
Molybdenum	ppm	ASTM D5185m	100	**59**	117	125
Manganese	ppm	ASTM D5185m		**0**	4	4
Magnesium	ppm	ASTM D5185m	450	**1001**	748	687
Calcium	ppm	ASTM D5185m	3000	**1117**	1515	1434
Phosphorus	ppm	ASTM D5185m	1150	**1102**	761	694
Zinc	ppm	ASTM D5185m	1350	**1353**	903	837
Sulfur	ppm	ASTM D5185m	4250	**3804**	2731	2394

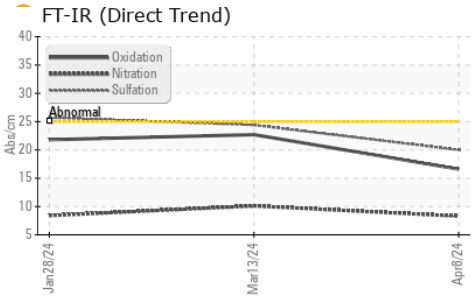
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**3**	70	70
Sodium	ppm	ASTM D5185m		**4**	3	4
Potassium	ppm	ASTM D5185m	>20	**2**	4	7

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.3**	0.5	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**8.3**	10.1	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.0**	24.4	25.7

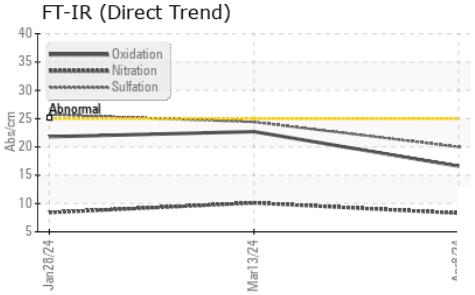
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.6**	22.7	21.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	**8.2**	7.7	9.1

OIL ANALYSIS REPORT

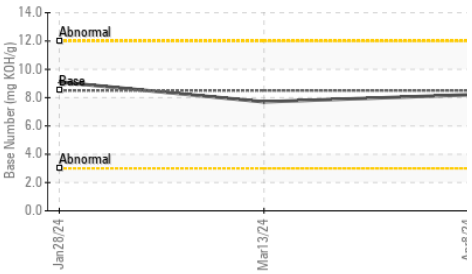
FT-IR (Direct Trend)



FT-IR (Direct Trend)



Base Number

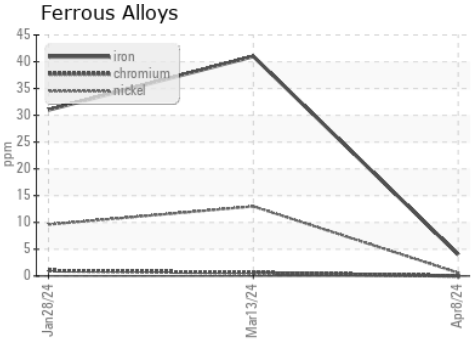


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

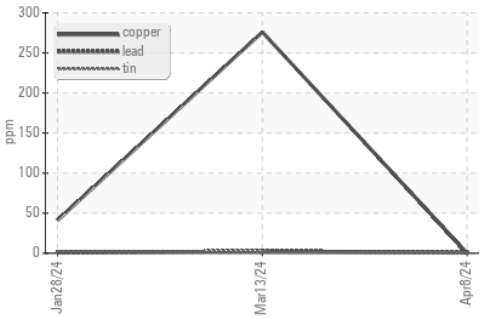
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	**13.8**	10.3	9.5

GRAPHS

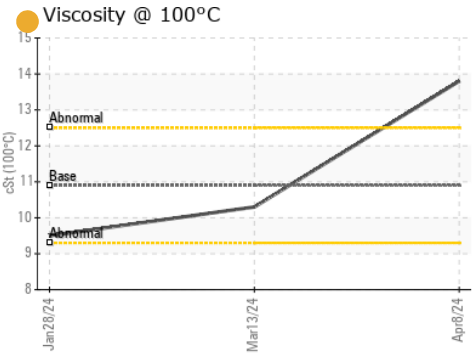
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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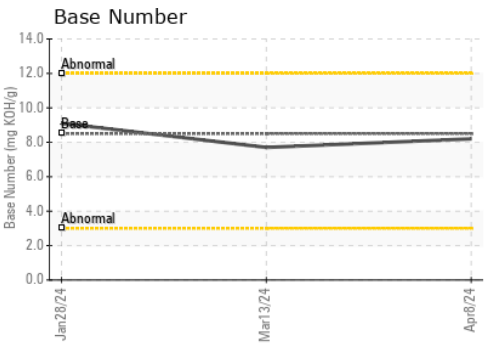

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0118170
Lab Number : 06146333
Unique Number : 10976411
Test Package : FLEET

Received : 11 Apr 2024
Tested : 12 Apr 2024
Diagnosed : 15 Apr 2024 - Don Baldridge

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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