



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
427093-402368

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0103950	GFL0100486	GFL0093230
Sample Date		Client Info		04 Jan 2024	16 Nov 2023	07 Sep 2023
Machine Age	hrs	Client Info		15816	15717	15541
Oil Age	hrs	Client Info		15816	15717	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Cylinder, crank, or cam shaft wear is indicated. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	▲ 102	75	50
Chromium	ppm	ASTM D5185m	>20	4	4	2
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	4	4
Lead	ppm	ASTM D5185m	>40	7	6	2
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

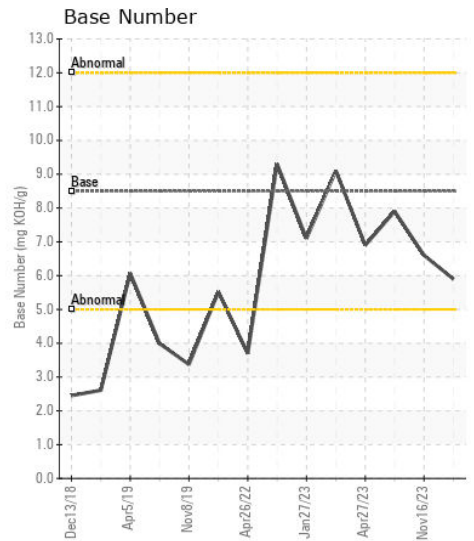
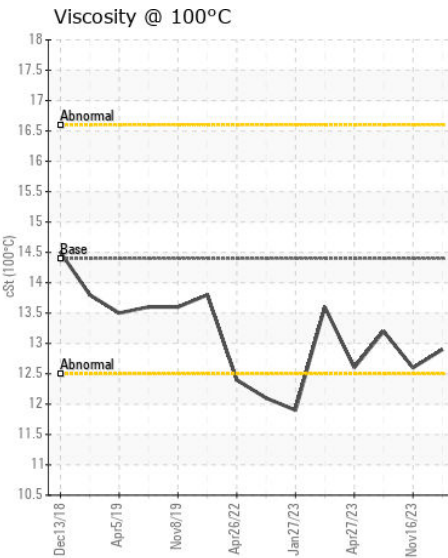
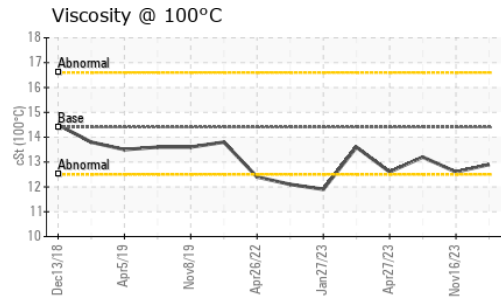
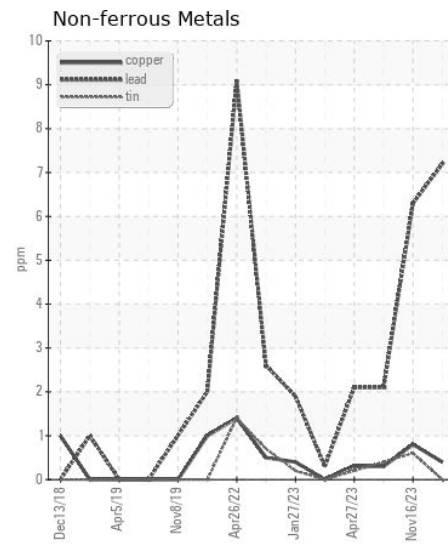
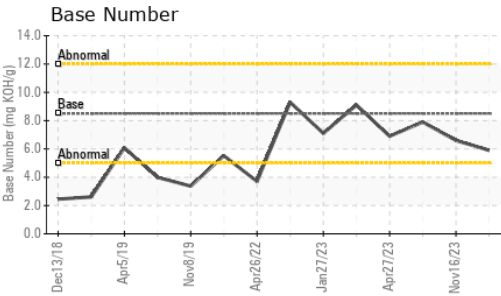
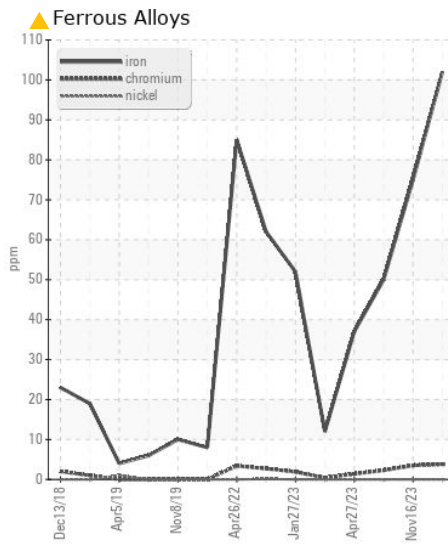
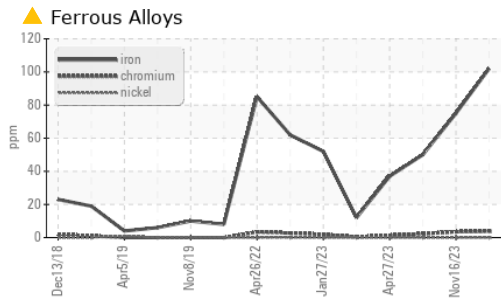
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	19	17	12
Potassium	ppm	ASTM D5185m	>20	3	3	2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.6	0.6	0.3
Nitration	Abs/cm	*ASTM D7624	>20	12.4	12.4	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.0	22.9	19.0
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>158	4	7	5
Boron	ppm	ASTM D5185m	250	0	0	0
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	61	64	60
Manganese	ppm	ASTM D5185m		0	1	<1
Magnesium	ppm	ASTM D5185m	450	969	1060	1012
Calcium	ppm	ASTM D5185m	3000	1075	1130	1093
Phosphorus	ppm	ASTM D5185m	1150	981	1082	1019
Zinc	ppm	ASTM D5185m	1350	1242	1352	1280
Sulfur	ppm	ASTM D5185m	4250	2906	3280	3619
Oxidation	Abs/.1mm	*ASTM D7414	>25	23.0	21.5	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.9	6.6	7.9
Visc @ 100°C	cSt	ASTM D445	14.4	12.9	12.6	13.2



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0103950 **Received** : 10 Jan 2024
Lab Number : 06057258 **Diagnosed** : 12 Jan 2024
Unique Number : 10823207 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 865 - East Mount Hauling
 7213 East Mount Houston Road
 Houston, TX
 US 77050
 Contact: Saul Castillo
 saul.castillo@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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F: