



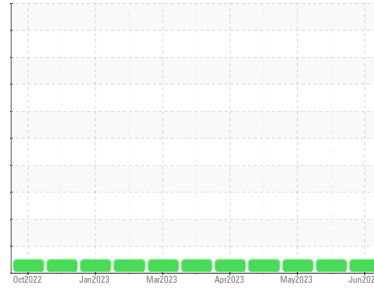
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
428099
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

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 suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		GFL0068742	GFL0068710	GFL0068767
Sample Date	Client Info		29 Jun 2023	13 Jun 2023	30 May 2023
Machine Age	hrs	Client Info	13679	13550	13433
Oil Age	hrs	Client Info	545	416	299
Oil Changed	Client Info		Changed	Not Changd	Not Changd
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >120	7	8	4
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >5	0	0	0
Titanium	ppm	ASTM D5185m >2	<1	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >20	<1	<1	1
Lead	ppm	ASTM D5185m >40	<1	<1	0
Copper	ppm	ASTM D5185m >330	3	2	1
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 250	2	3	6
Barium	ppm	ASTM D5185m 10	<1	0	0
Molybdenum	ppm	ASTM D5185m 100	63	68	62
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 450	963	1079	987
Calcium	ppm	ASTM D5185m 3000	1125	1259	1088
Phosphorus	ppm	ASTM D5185m 1150	987	1144	1034
Zinc	ppm	ASTM D5185m 1350	1240	1433	1275
Sulfur	ppm	ASTM D5185m 4250	3427	4088	3668

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >25	5	7	5
Sodium	ppm	ASTM D5185m >216	4	3	2
Potassium	ppm	ASTM D5185m >20	3	2	<1

INFRA-RED

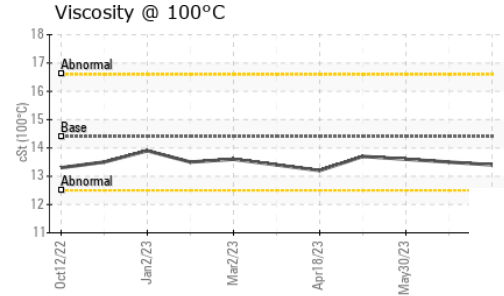
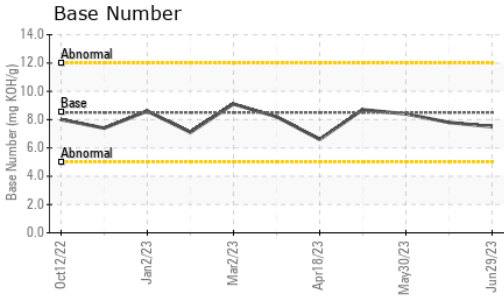
	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >4	0.3	0.3	0.2
Nitration	Abs/cm	*ASTM D7624 >20	7.8	6.9	6.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.8	19.4	18.8

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.4	15.9	14.4
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	7.5	7.8	8.4



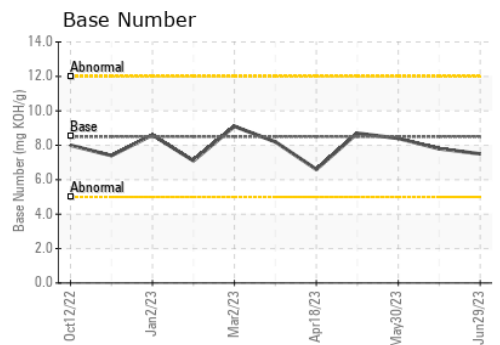
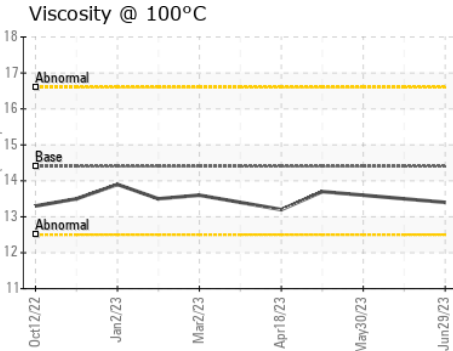
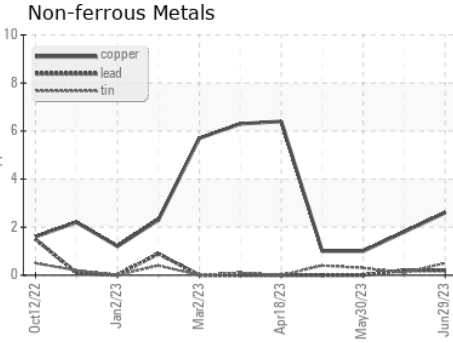
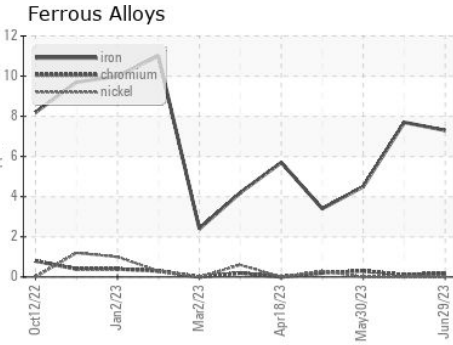
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	14.4	13.5	13.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0068742 **Received** : 06 Jul 2023
Lab Number : 05891050 **Diagnosed** : 06 Jul 2023
Unique Number : 10546860 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 073 - Warner Robbins - Transwaste
 155 Story Road
 Warner Robins, GA
 US 31093
 Contact: JOSH MALONEY
 jmaloney@gflenv.com

Certificate L2367
 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)