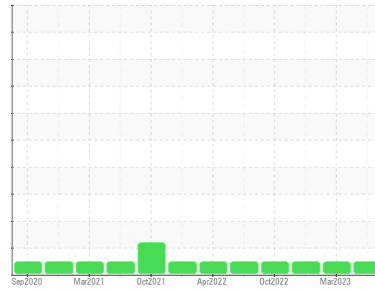




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

3697

Component

Diesel Engine

Fluid

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

DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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	history1	history2	
Sample Number	Client Info	GFL0077818	GFL0065080	GFL0065076	
Sample Date	Client Info	17 Jul 2023	09 Mar 2023	08 Feb 2023	
Machine Age	mls	Client Info	289515	0	271144
Oil Age	mls	Client Info	0	0	0
Oil Changed	Client Info	Changed	Not Changd	Changed	
Sample Status		NORMAL	NORMAL	NORMAL	

CONTAMINATION

method	limit/base	current	history1	history2	
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>100	13	3	11
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	3	<1	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	1	2
Lead	ppm	ASTM D5185m	>40	4	<1	<1
Copper	ppm	ASTM D5185m	>330	2	<1	<1
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	250	2	11	9
Barium	ppm	ASTM D5185m	10	0	0	<1
Molybdenum	ppm	ASTM D5185m	100	65	58	56
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	450	1036	908	874
Calcium	ppm	ASTM D5185m	3000	1178	1122	1089
Phosphorus	ppm	ASTM D5185m	1150	1004	993	939
Zinc	ppm	ASTM D5185m	1350	1330	1240	1157
Sulfur	ppm	ASTM D5185m	4250	3229	3691	2855

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>25	8	6	15
Sodium	ppm	ASTM D5185m	>158	6	2	3
Potassium	ppm	ASTM D5185m	>20	15	<1	7

INFRA-RED

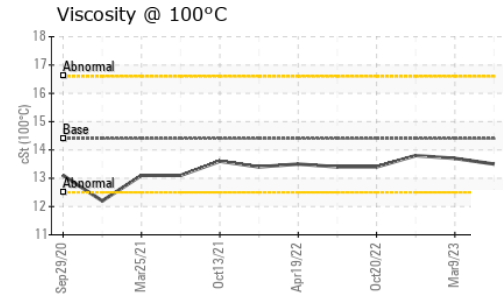
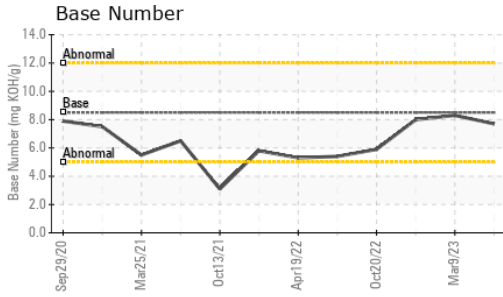
method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>3	0.3	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.7	6.4	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.1	18.6	18.8

FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.5	14.3	15.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.7	8.3	8.0



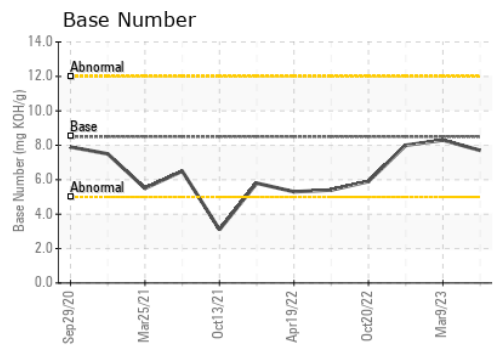
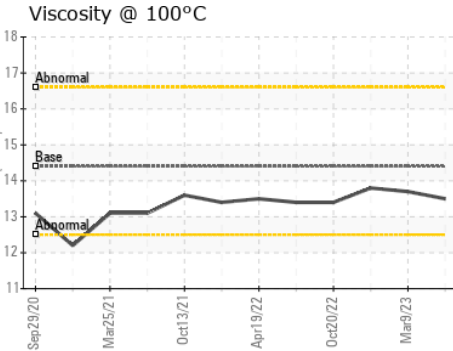
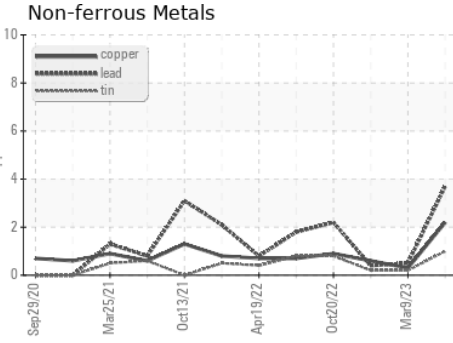
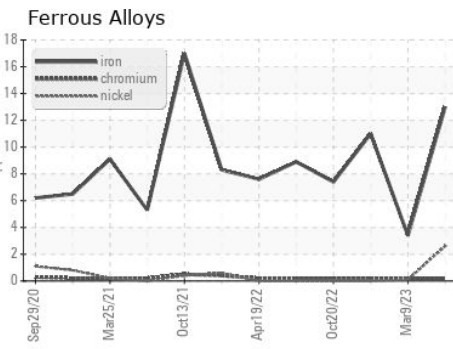
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
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	history1	history2	
Visc @ 100°C	cSt	ASTM D445	14.4	13.5	13.7	13.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0077818 **Received** : 18 Jul 2023
Lab Number : **05901803** **Diagnosed** : 19 Jul 2023
Unique Number : 10563159 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 650 - West Point Hauling
 7825 Parham Landing Road
 West Point, VA
 US 23181
 Contact: Jason Smith
 jasonsmith@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)