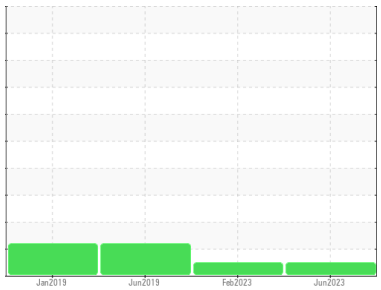
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
821042-100551
Component
Diesel Engine
Fluid
{not provided} (--- 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	history1	history2
Sample Number		Client Info		**GFL0027774**	GFL0046809	GFLH-121770
Sample Date		Client Info		**01 Jun 2023**	19 Feb 2023	18 Jun 2019
Machine Age	hrs	Client Info		**8122**	8052	6787
Oil Age	hrs	Client Info		**0**	0	453
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**NORMAL**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	0.5
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

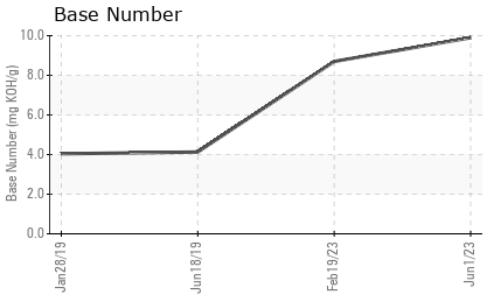
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	**23**	73	21
Chromium	ppm	ASTM D5185m	>20	**<1**	1	0
Nickel	ppm	ASTM D5185m	>5	**<1**	2	0
Titanium	ppm	ASTM D5185m	>2	**0**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**6**	20	12
Lead	ppm	ASTM D5185m	>40	**0**	1	0
Copper	ppm	ASTM D5185m	>330	**<1**	6	4
Tin	ppm	ASTM D5185m	>15	**0**	<1	0
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

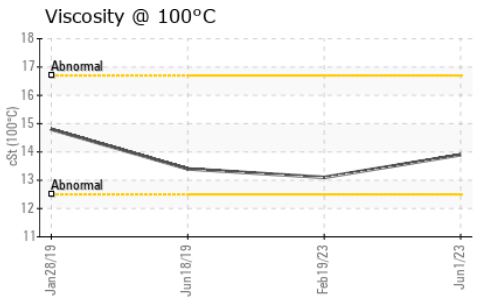
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**37**	279	210
Barium	ppm	ASTM D5185m		**5**	0	0
Molybdenum	ppm	ASTM D5185m		**62**	106	108
Manganese	ppm	ASTM D5185m		**<1**	1	0
Magnesium	ppm	ASTM D5185m		**654**	459	584
Calcium	ppm	ASTM D5185m		**1113**	1429	1580
Phosphorus	ppm	ASTM D5185m		**876**	808	753
Zinc	ppm	ASTM D5185m		**1021**	971	770
Sulfur	ppm	ASTM D5185m		**3042**	3395	---
Lithium	ppm	ASTM D5185m		**---**	---	0

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	18	10
Sodium	ppm	ASTM D5185m		**2**	8	3
Potassium	ppm	ASTM D5185m	>20	**4**	6	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.6**	1.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**5.7**	9.8	10
Sulfation	Abs/.1mm	*ASTM D7415	>30	**18.9**	22.7	---

OIL ANALYSIS REPORT



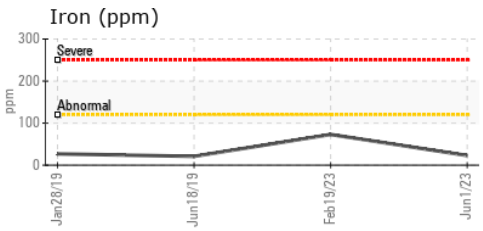


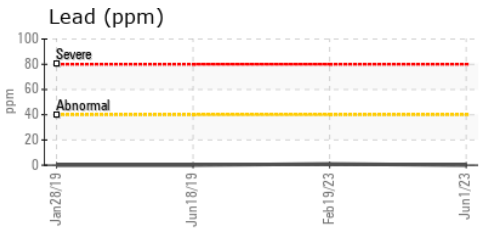
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.6**	16.3	14
Base Number (BN)	mg KOH/g	ASTM D2896		**9.9**	8.7	▲ 4.13

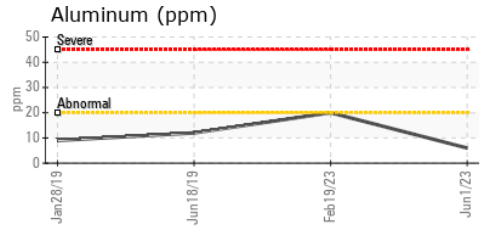
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt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

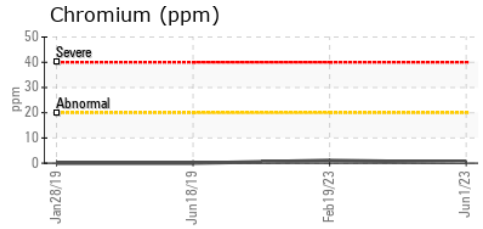
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		**13.9**	13.1	13.4

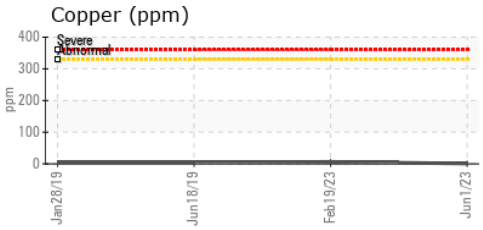
GRAPHS

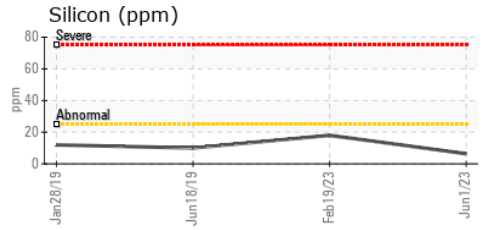


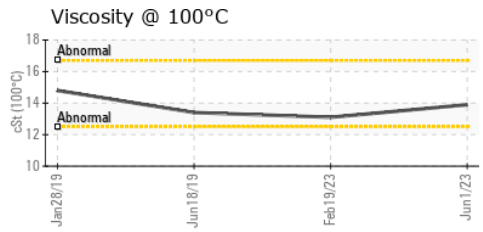


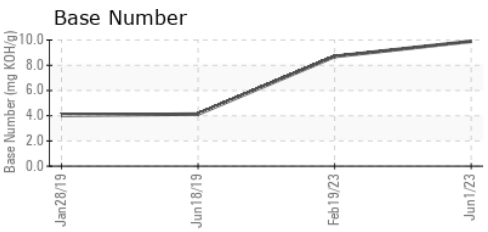












Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0027774
Lab Number : 05863526
Unique Number : 10497991
Test Package : MOB1+

Received : 02 Jun 2023
Tested : 05 Jun 2023
Diagnosed : 05 Jun 2023 - Wes Davis

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)

GFL Environmental - 816 - WCA of South Arkansas
3083 Smackover Hwy
El Dorado, AR
US 71730
Contact: Mike Howell
mike.howell@gflenv.com
T:
F: