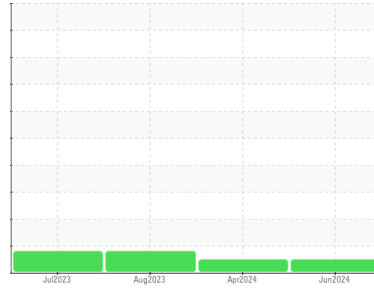




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
212031
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

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 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		GFL0115403	GFL0102990	GFL0086369
Sample Date	Client Info		27 Jun 2024	13 Apr 2024	30 Aug 2023
Machine Age	hrs	Client Info	1336	1188	774
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	NORMAL	MARGINAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	▲ 4.7
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 >80	23	10	37
Chromium	ppm	ASTM D5185m >5	2	<1	4
Nickel	ppm	ASTM D5185m >2	1	0	<1
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	<1	0	<1
Aluminum	ppm	ASTM D5185m >30	4	2	2
Lead	ppm	ASTM D5185m >30	0	0	0
Copper	ppm	ASTM D5185m >150	2	3	7
Tin	ppm	ASTM D5185m >5	0	<1	0
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	30	54	0
Barium	ppm	ASTM D5185m 10	0	0	0
Molybdenum	ppm	ASTM D5185m 100	61	58	60
Manganese	ppm	ASTM D5185m	2	<1	2
Magnesium	ppm	ASTM D5185m 450	854	789	806
Calcium	ppm	ASTM D5185m 3000	1390	1297	1279
Phosphorus	ppm	ASTM D5185m 1150	1065	1025	1018
Zinc	ppm	ASTM D5185m 1350	1319	1206	1251
Sulfur	ppm	ASTM D5185m 4250	3834	3630	3524

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	5	5	6
Sodium	ppm	ASTM D5185m >216	3	1	2
Potassium	ppm	ASTM D5185m >20	5	1	0

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	0.1	0.5
Nitration	Abs./cm	*ASTM D7624 >20	8.0	5.5	10.4
Sulfation	Abs./1mm	*ASTM D7415 >30	20.3	19.0	20.7

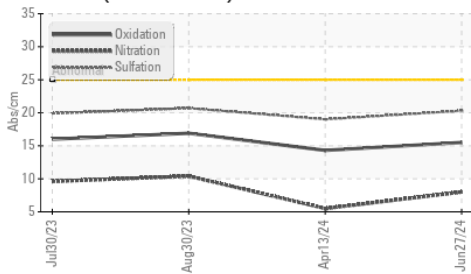
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414 >25	15.5	14.3	16.9
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	8.5	8.7	6.6

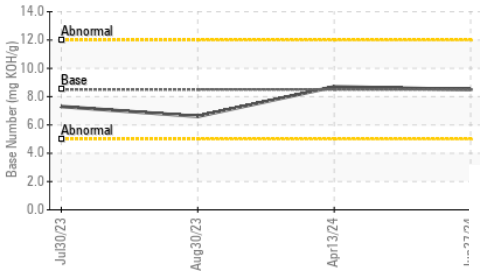


OIL ANALYSIS REPORT

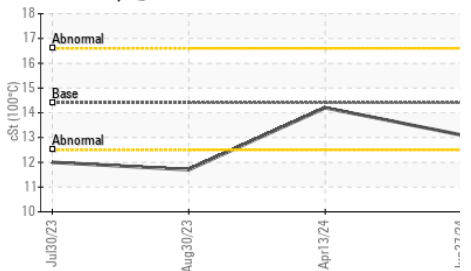
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

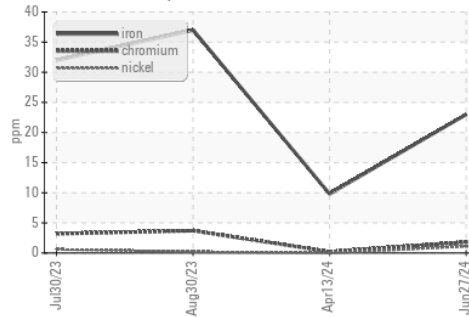


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

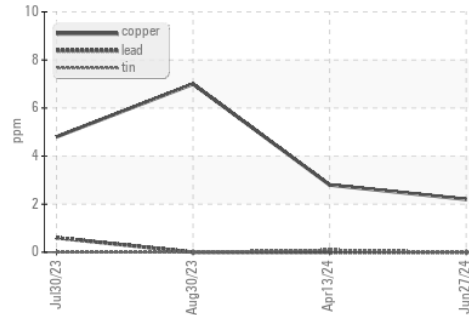
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.1	14.2

GRAPHS

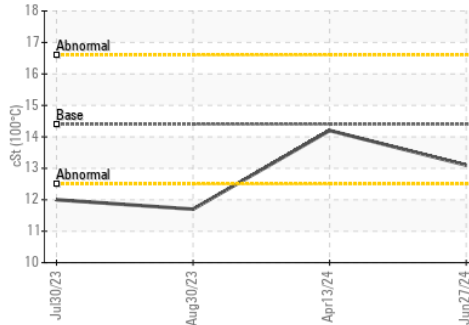
Ferrous Alloys



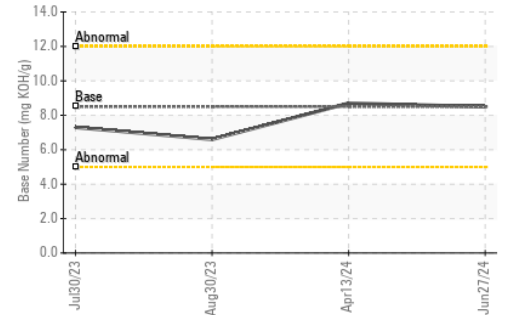
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0115403
Lab Number : 06223040
Unique Number : 11101237
Test Package : FLEET

Received : 27 Jun 2024
Tested : 28 Jun 2024
Diagnosed : 30 Jun 2024 - Don Baldrige

GFL Environmental - 816 - WCA of South Arkansas
 3083 Smackover Hwy
 El Dorado, AR
 US 71730

Contact: Mike Howell
 mike.howell@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)

T:
 F: