

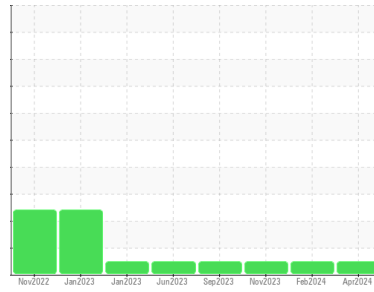


OIL ANALYSIS REPORT



Area
(YA172328) 020
 Machine Id
913032
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 40 (38 QTS)

Sample Rating Trend



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		GFL0117862	GFL0103789	GFL0091155
Sample Date	Client Info		03 Apr 2024	08 Feb 2024	24 Nov 2023
Machine Age	hrs	Client Info	4284	3886	3297
Oil Age	hrs	Client Info	398	589	600
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	12	18	11
Chromium	ppm	ASTM D5185m >20	1	<1	<1
Nickel	ppm	ASTM D5185m >5	1	<1	<1
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	<1
Aluminum	ppm	ASTM D5185m >20	2	1	1
Lead	ppm	ASTM D5185m >40	<1	0	0
Copper	ppm	ASTM D5185m >330	1	1	4
Tin	ppm	ASTM D5185m >15	1	<1	<1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 250	4	4	5
Barium	ppm	ASTM D5185m 10	0	0	0
Molybdenum	ppm	ASTM D5185m 100	63	65	59
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 450	952	1008	917
Calcium	ppm	ASTM D5185m 3000	1156	1222	1079
Phosphorus	ppm	ASTM D5185m 1150	1013	1081	1005
Zinc	ppm	ASTM D5185m 1350	1259	1388	1234
Sulfur	ppm	ASTM D5185m 4250	3049	3011	2693

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	5	5
Sodium	ppm	ASTM D5185m >216	3	4	5
Potassium	ppm	ASTM D5185m >20	4	3	3

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.5	0.8	0.6
Nitration	Abs/cm	*ASTM D7624 >20	10.1	11.8	10.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.0	24.4	22.9

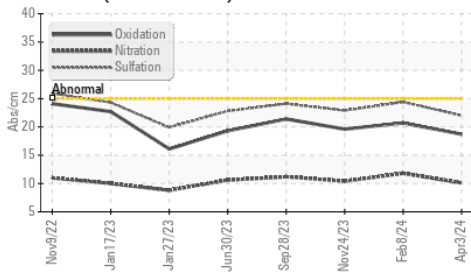
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.7	20.7	19.6
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	7.2	5.8	7.2

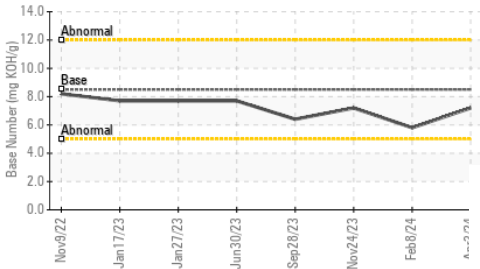


OIL ANALYSIS REPORT

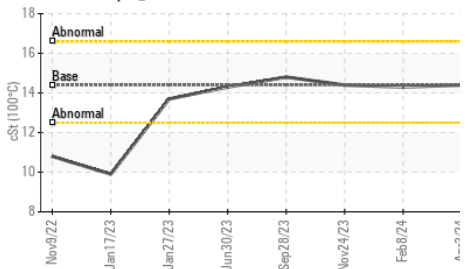
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

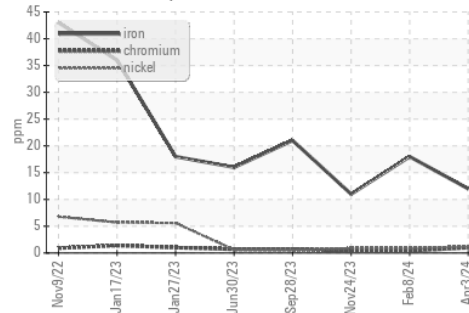


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

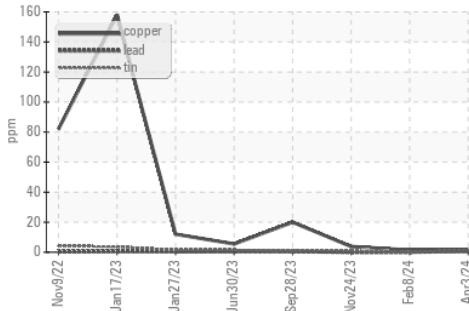
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	14.3	14.4

GRAPHS

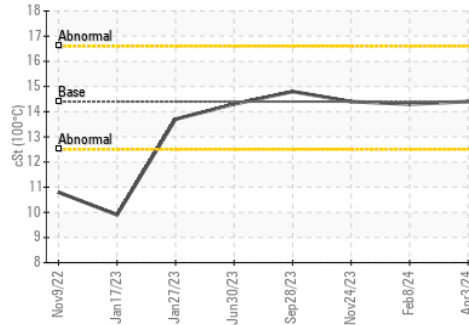
Ferrous Alloys



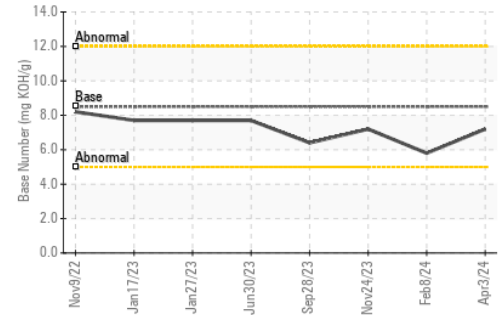
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0117862
 Lab Number : 06139548
 Unique Number : 10964356
 Test Package : FLEET

Received : 05 Apr 2024
 Tested : 05 Apr 2024
 Diagnosed : 05 Apr 2024 - Wes Davis

GFL Environmental - 020 - Alamance
 703 East Gilbreath St
 Graham, NC
 US 27253
 Contact:

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)

richard.belcher@gflenv.com

T: (800)207-6618

F: (336)229-0526