



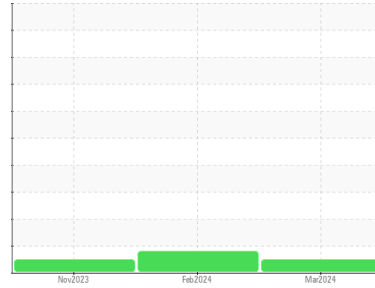
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
(BD56834) {UNASSIGNED}
 Machine Id
914045 MACK TE64R
 Component
Diesel Engine
 Fluid
TIER ONE 15W40 (--- 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		GFL0061428	GFL0061435	GFL0061441
Sample Date	Client Info		18 Mar 2024	21 Feb 2024	13 Nov 2023
Machine Age	hrs	Client Info	1311	1170	435
Oil Age	hrs	Client Info	141	1	435
Oil Changed	Client Info		Changed	Changed	Not Changed
Sample Status			NORMAL	MARGINAL	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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	6	16	3
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >5	<1	3	0
Titanium	ppm	ASTM D5185m >2	<1	<1	<1
Silver	ppm	ASTM D5185m >2	<1	1	0
Aluminum	ppm	ASTM D5185m >20	2	2	1
Lead	ppm	ASTM D5185m >40	<1	2	0
Copper	ppm	ASTM D5185m >330	47	▲ 202	6
Tin	ppm	ASTM D5185m >15	1	<1	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	21	11	17
Barium	ppm	ASTM D5185m	0	<1	<1
Molybdenum	ppm	ASTM D5185m	58	57	53
Manganese	ppm	ASTM D5185m	<1	<1	0
Magnesium	ppm	ASTM D5185m	835	839	780
Calcium	ppm	ASTM D5185m	1107	1082	969
Phosphorus	ppm	ASTM D5185m	1007	937	892
Zinc	ppm	ASTM D5185m	1135	1148	1091
Sulfur	ppm	ASTM D5185m	3157	2547	3063

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	8	29
Sodium	ppm	ASTM D5185m	2	3	2
Potassium	ppm	ASTM D5185m >20	2	4	3
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

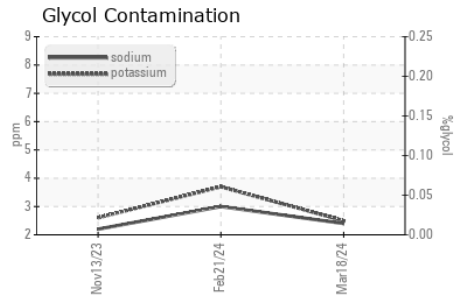
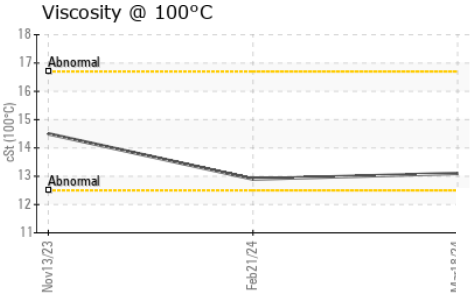
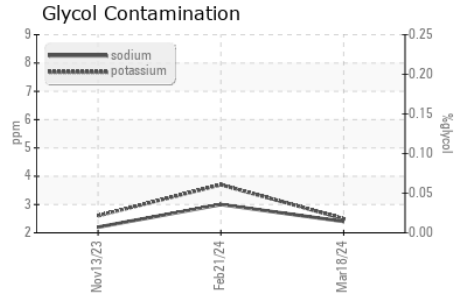
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.2	0.5	0.1
Nitration	Abs/cm	*ASTM D7624 >20	5.9	8.3	4.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.5	20.3	17.6

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	14.1	16.5	12.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.7	6.7	9.6



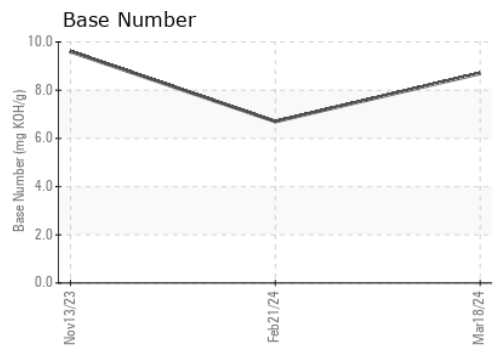
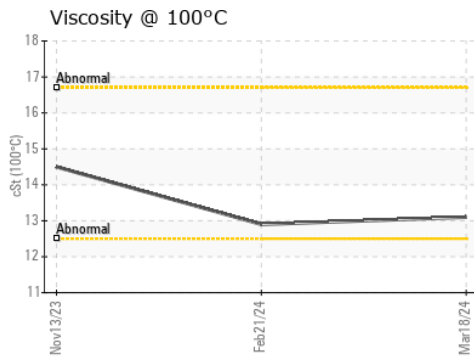
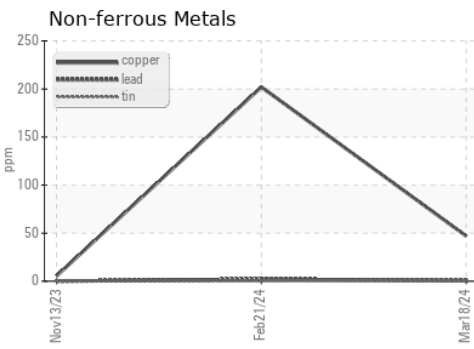
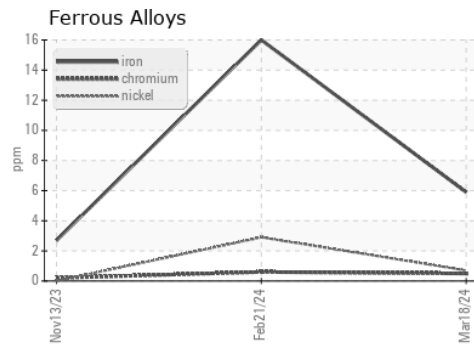
OIL ANALYSIS REPORT



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	LIGHT
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	13.1	12.9	14.5

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0061428 **Received** : 22 Mar 2024
Lab Number : 06126980 **Tested** : 29 Mar 2024
Unique Number : 10941131 **Diagnosed** : 29 Mar 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 642- Grand Rapids Hauling
 5826 Alden Nash Ave SE
 Lowell, MI
 US 49331
 Contact: Chad Crosby
 ccrosby@gflenv.com
 T: (616)299-8425
 F:

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)