



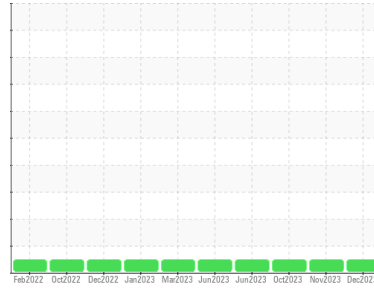
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
MONTGOMERY
 Machine Id
MACK 924016-142519
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)



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	GFL0091259	GFL0087992	GFL0089865
Sample Date	Client Info	04 Dec 2023	10 Nov 2023	17 Oct 2023
Machine Age	hrs	21786	21642	21472
Oil Age	hrs	144	562	392
Oil Changed	Client Info	Not Changed	Changed	Not 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	3	19	13
Chromium	ppm ASTM D5185m >20	<1	<1	<1
Nickel	ppm ASTM D5185m >5	0	2	<1
Titanium	ppm ASTM D5185m >2	<1	<1	<1
Silver	ppm ASTM D5185m >2	0	<1	0
Aluminum	ppm ASTM D5185m >20	3	10	6
Lead	ppm ASTM D5185m >40	<1	1	<1
Copper	ppm ASTM D5185m >330	<1	5	2
Tin	ppm ASTM D5185m >15	<1	1	<1
Vanadium	ppm ASTM D5185m	<1	<1	0
Cadmium	ppm ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	4	2	2
Barium	ppm ASTM D5185m 0	0	<1	0
Molybdenum	ppm ASTM D5185m 60	42	86	62
Manganese	ppm ASTM D5185m 0	<1	<1	0
Magnesium	ppm ASTM D5185m 1010	746	1332	959
Calcium	ppm ASTM D5185m 1070	615	1450	1076
Phosphorus	ppm ASTM D5185m 1150	625	1409	961
Zinc	ppm ASTM D5185m 1270	761	1672	1228
Sulfur	ppm ASTM D5185m 2060	1928	4308	3287

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	11	6
Sodium	ppm ASTM D5185m	3	16	10
Potassium	ppm ASTM D5185m >20	8	5	2

INFRA-RED

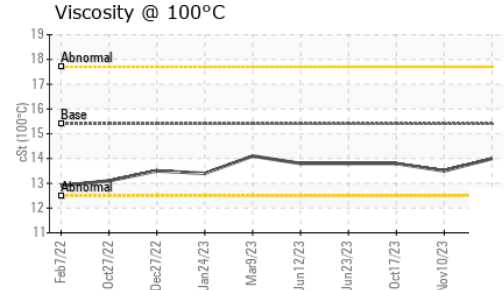
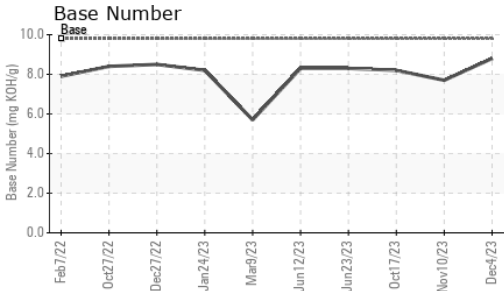
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.2	0.5	0.3
Nitration	Abs/cm *ASTM D7624 >20	5.4	8.3	6.7
Sulfation	Abs/.1mm *ASTM D7415 >30	17.4	18.8	17.5

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.5	15.0	13.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.8	7.7	8.2



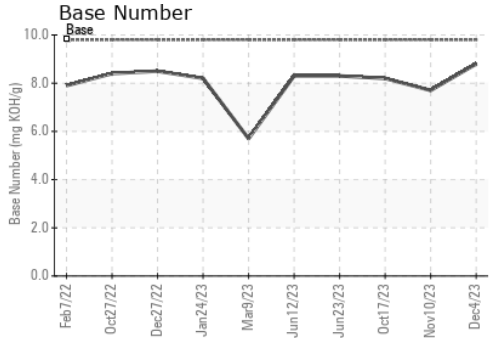
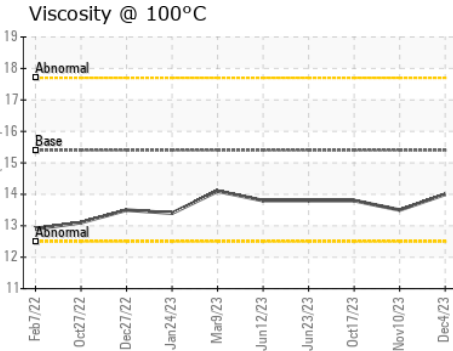
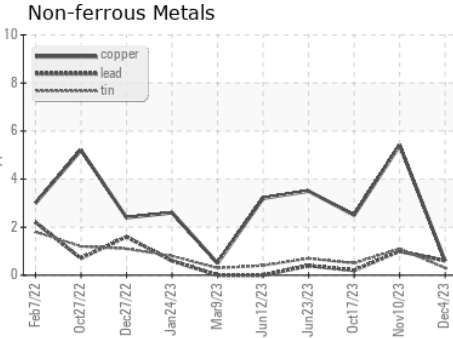
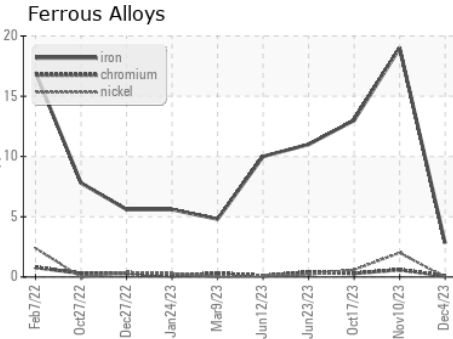
OIL ANALYSIS REPORT



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	15.4	14.0	13.5	13.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0091259
Lab Number : **06027102**
Unique Number : 10776893
Test Package : FLEET
Received : 06 Dec 2023
Diagnosed : 08 Dec 2023
Diagnostician : Angela Borella

GFL Environmental - 955 - Montgomery
 1121 Wilbanks St
 Montgomery, AL
 US 36108
 Contact: LISA REEVES

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)