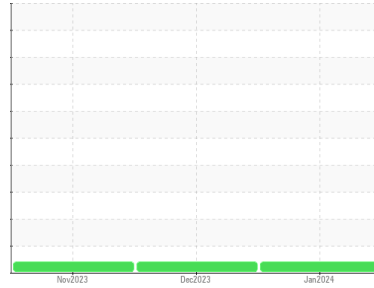




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id
414119

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- QTS)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. No other contaminants were detected in the oil.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0107949	GFL0102565	GFL0100385
Sample Date	Client Info		05 Jan 2024	13 Dec 2023	20 Nov 2023
Machine Age	hrs	Client Info	562	439	300
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Not Changed	Not Changd	Not Changd
Sample Status			ATTENTION	ATTENTION	ATTENTION

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<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 >110	43	29	24
Chromium	ppm	ASTM D5185m >4	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m	0	0	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >25	56	47	47
Lead	ppm	ASTM D5185m >45	0	<1	<1
Copper	ppm	ASTM D5185m >85	18	15	16
Tin	ppm	ASTM D5185m >4	0	0	<1
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 0	46	45	64
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	13	14	12
Manganese	ppm	ASTM D5185m 0	4	4	4
Magnesium	ppm	ASTM D5185m 1010	793	826	777
Calcium	ppm	ASTM D5185m 1070	1334	1421	1371
Phosphorus	ppm	ASTM D5185m 1150	757	800	624
Zinc	ppm	ASTM D5185m 1270	892	867	823
Sulfur	ppm	ASTM D5185m 2060	3034	2868	2844

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	25	22	25
Sodium	ppm	ASTM D5185m	5	4	6
Potassium	ppm	ASTM D5185m >20	144	118	111

INFRA-RED

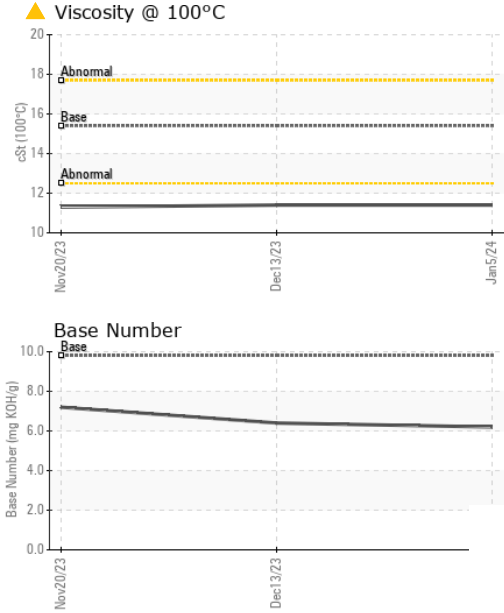
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	0.4	0.3
Nitration	Abs/cm	*ASTM D7624 >20	9.9	9.5	9.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.5	20.6	19.6

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.7	17.2	16.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.2	6.4	7.2



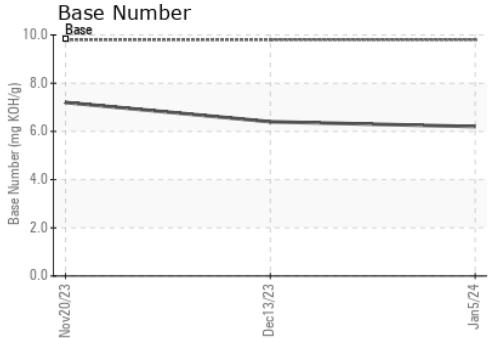
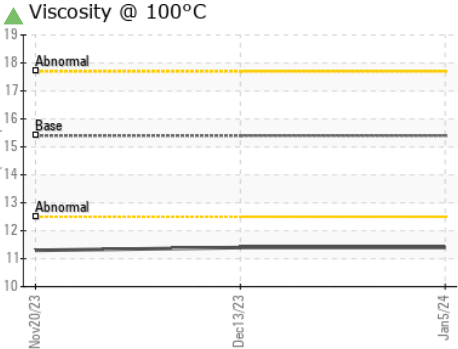
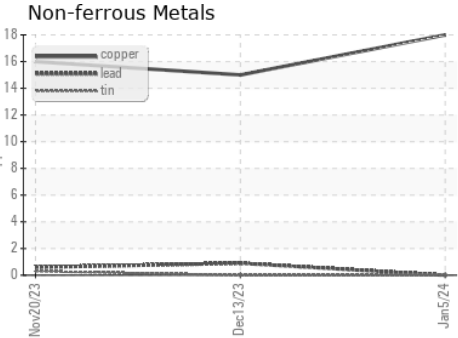
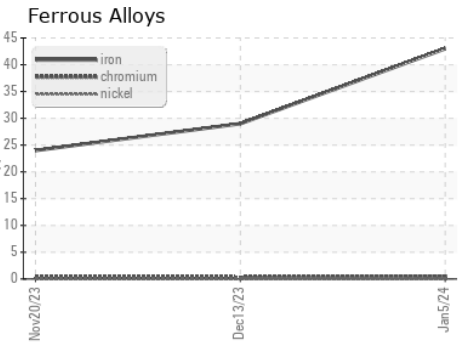
OIL ANALYSIS REPORT



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	▲ 11.4	▲ 11.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0107949 **Received** : 09 Jan 2024
Lab Number : 06055786 **Diagnosed** : 10 Jan 2024
Unique Number : 10821735 **Diagnostician** : Jonathan Hester
Test Package : FLEET

GFL Environmental - 892 - Pauls Valley Hauling
 405 East Airport Industrial Road
 Pauls Valley, OK
 US 73075
 Contact: Tony Graham
 tgraham2@wcamerica.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)

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F: