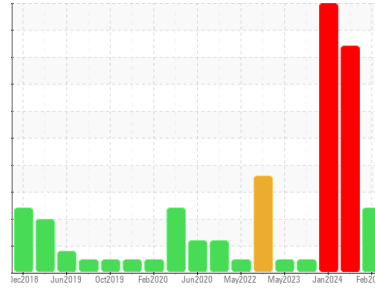




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
727107-361681

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels remain high.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0103987	GFL0100553	GFL0103948
Sample Date	Client Info	06 Feb 2024	16 Jan 2024	03 Jan 2024
Machine Age	hrs	17023	16859	16833
Oil Age	hrs	17023	16859	16833
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed
Sample Status		ABNORMAL	SEVERE	SEVERE

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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	10	10	71
Chromium	ppm ASTM D5185m >20	<1	<1	4
Nickel	ppm ASTM D5185m >4	0	<1	2
Titanium	ppm ASTM D5185m	0	<1	<1
Silver	ppm ASTM D5185m >3	0	0	<1
Aluminum	ppm ASTM D5185m >20	2	3	▲ 14
Lead	ppm ASTM D5185m >40	0	<1	4
Copper	ppm ASTM D5185m >330	15	20	▲ 174
Tin	ppm ASTM D5185m >15	0	<1	2
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	12	16	4
Barium	ppm ASTM D5185m 0	0	3	9
Molybdenum	ppm ASTM D5185m 60	79	83	386
Manganese	ppm ASTM D5185m 0	<1	<1	3
Magnesium	ppm ASTM D5185m 1010	893	798	794
Calcium	ppm ASTM D5185m 1070	1194	1131	1074
Phosphorus	ppm ASTM D5185m 1150	1053	985	715
Zinc	ppm ASTM D5185m 1270	1331	1179	1104
Sulfur	ppm ASTM D5185m 2060	3252	3487	3005

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	5	6	▲ 35
Sodium	ppm ASTM D5185m	▲ 83	▲ 119	▲ 1192
Potassium	ppm ASTM D5185m >20	▲ 163	▲ 220	▲ 2221
Glycol	% *ASTM D2982	NEG	◻ 0.10	◻ 0.20

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.2	0.2	0.9
Nitration	Abs/cm *ASTM D7624 >20	7.3	6.1	16.7
Sulfation	Abs/.1mm *ASTM D7415 >30	19.5	18.7	25.6

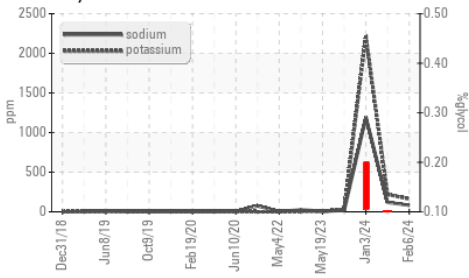
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.2	14.2	22.3
Base Number (BN)	mg KOH/g ASTM D2896 9.8	9.1	9.7	9.5

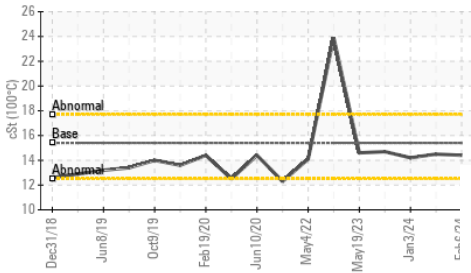


OIL ANALYSIS REPORT

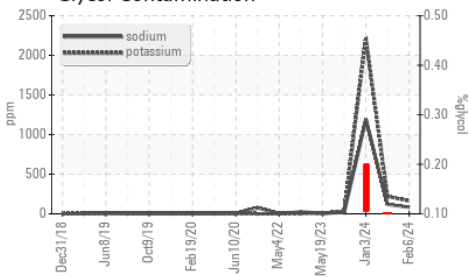
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

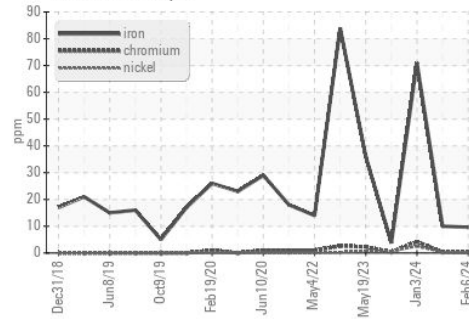


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

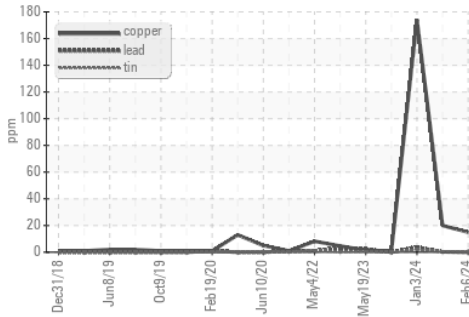
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.4	14.5

GRAPHS

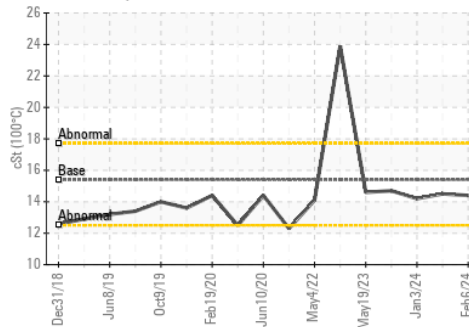
Ferrous Alloys



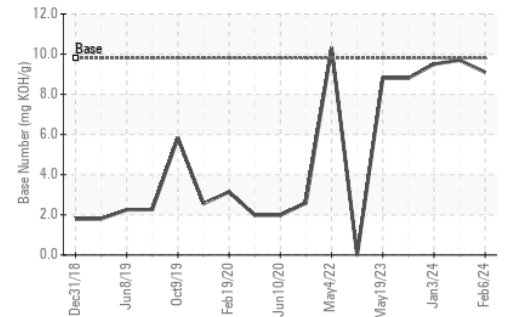
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0103987
 Lab Number : 06085607
 Unique Number : 10873052
 Test Package : FLEET

Received : 12 Feb 2024
 Tested : 13 Feb 2024
 Diagnosed : 13 Feb 2024 - Jonathan Hester

GFL Environmental - 865 - East Mount Hauling
 7213 East Mount Houston Road
 Houston, TX
 US 77050
 Contact: Saul Castillo
 saul.castillo@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)

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