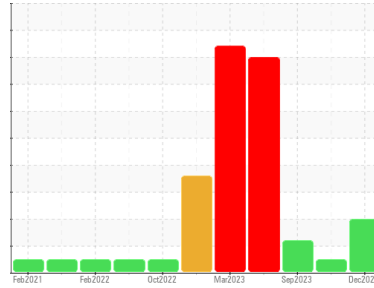




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
7807M

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

We advise that you check for possible coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

The aluminum level is abnormal. All other component wear rates are normal.

Contamination

Sodium and/or potassium levels are 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	GFL0107085	GFL0046370	GFL0091506
Sample Date	Client Info	18 Dec 2023	19 Sep 2023	12 Sep 2023
Machine Age	hrs	15320	14681	14634
Oil Age	hrs	600	600	600
Oil Changed	Client Info	Changed	Not Changd	Not Changd
Sample Status		ABNORMAL	NORMAL	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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	57	15	14
Chromium	ppm ASTM D5185m >20	1	0	<1
Nickel	ppm ASTM D5185m >4	0	0	1
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	▲ 23	1	15
Lead	ppm ASTM D5185m >40	0	0	0
Copper	ppm ASTM D5185m >330	15	7	6
Tin	ppm ASTM D5185m >15	<1	<1	<1
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	11	40	17
Barium	ppm ASTM D5185m 0	<1	0	0
Molybdenum	ppm ASTM D5185m 60	68	78	66
Manganese	ppm ASTM D5185m 0	2	2	<1
Magnesium	ppm ASTM D5185m 1010	877	825	931
Calcium	ppm ASTM D5185m 1070	1044	1230	1124
Phosphorus	ppm ASTM D5185m 1150	957	876	1063
Zinc	ppm ASTM D5185m 1270	1216	1071	1281
Sulfur	ppm ASTM D5185m 2060	2301	3589	3243

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	12	9	7
Sodium	ppm ASTM D5185m	▲ 283	5	▲ 218
Potassium	ppm ASTM D5185m >20	7	10	4
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	1.6	0.2	0.2
Nitration	Abs/cm *ASTM D7624 >20	10.9	7.4	6.2
Sulfation	Abs/.1mm *ASTM D7415 >30	23.2	18.8	17.8

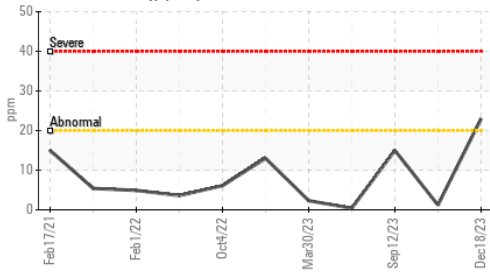
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	19.2	16.3	13.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.3	7.9	9.1

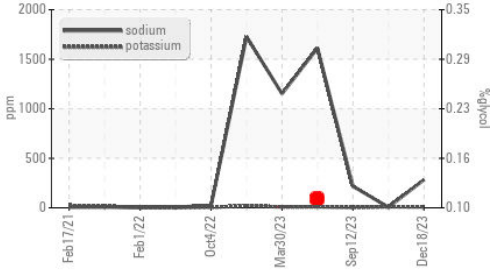


OIL ANALYSIS REPORT

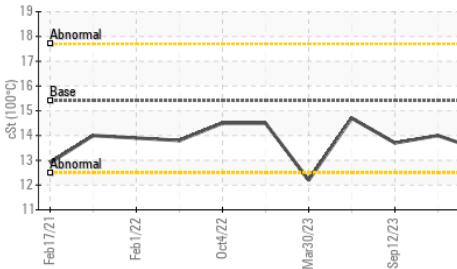
▲ Aluminum (ppm)



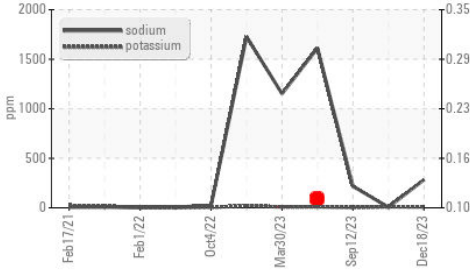
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination



VISUAL

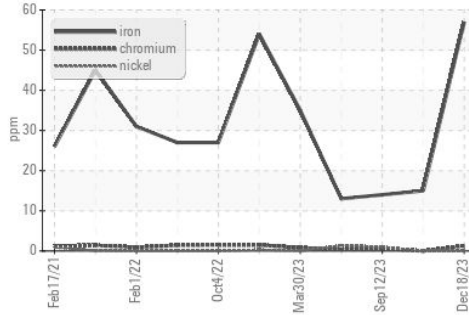
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

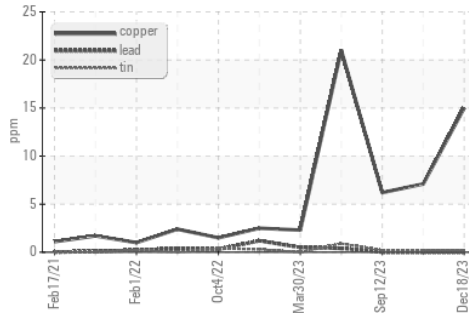
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	14.0

GRAPHS

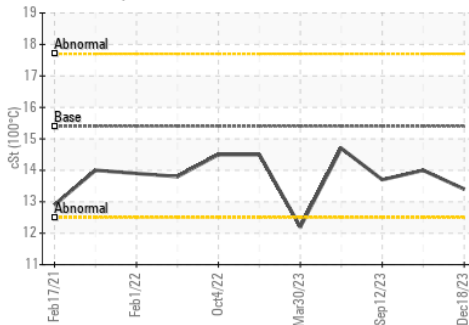
Ferrous Alloys



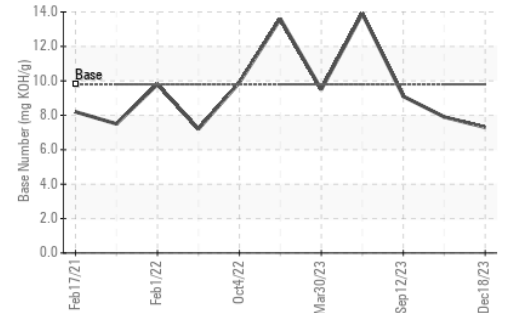
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0107085
 Lab Number : 06044322
 Unique Number : 10804930
 Test Package : FLEET (Additional Tests: Glycol)

Received : 26 Dec 2023
 Diagnosed : 27 Dec 2023
 Diagnostician : Jonathan Hester

GFL Environmental - 465 - Pontiac
 888 Baldwin
 Pontiac, MI
 US 48340

Contact: Ricky Matthews
 rickymathews@gflenv.com
 T: (586)825-9514

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)

F: