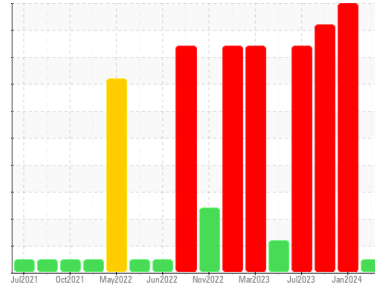




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
727109-36
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: New engine installed 50 hrs ago)

Wear

All component wear rates are normal.

Contamination

No evidence of coolant present in the oil. 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	GFL0058061	GFL0058063	GFL0058038
Sample Date	Client Info	12 Mar 2024	03 Jan 2024	27 Sep 2023
Machine Age	hrs	11800	11686	11275
Oil Age	hrs	50	411	92
Oil Changed	Client Info	Changed	Not Changd	Changed
Sample Status		NORMAL	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 >80	15	31	20
Chromium	ppm ASTM D5185m >5	0	2	1
Nickel	ppm ASTM D5185m >2	0	2	<1
Titanium	ppm ASTM D5185m	0	2	<1
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >30	7	8	6
Lead	ppm ASTM D5185m >30	0	5	<1
Copper	ppm ASTM D5185m >150	0	128	▲ 258
Tin	ppm ASTM D5185m >5	0	2	0
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	17	252	5
Barium	ppm ASTM D5185m 0	0	2	2
Molybdenum	ppm ASTM D5185m 60	57	752	178
Manganese	ppm ASTM D5185m 0	<1	1	1
Magnesium	ppm ASTM D5185m 1010	885	846	899
Calcium	ppm ASTM D5185m 1070	1022	912	1030
Phosphorus	ppm ASTM D5185m 1150	999	996	1053
Zinc	ppm ASTM D5185m 1270	1173	1156	1220
Sulfur	ppm ASTM D5185m 2060	3355	3111	3145

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >20	10	▲ 93	9
Sodium	ppm ASTM D5185m	0	▲ 3548	▲ 213
Potassium	ppm ASTM D5185m >20	4	▲ 4813	▲ 1161
Glycol	% *ASTM D2982	NEG	▲ 0.20	▲ 0.20

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.3	0.3	0.2
Nitration	Abs/cm *ASTM D7624 >20	6.2	20.4	7.0
Sulfation	Abs/.1mm *ASTM D7415 >30	18.3	17.8	18.7

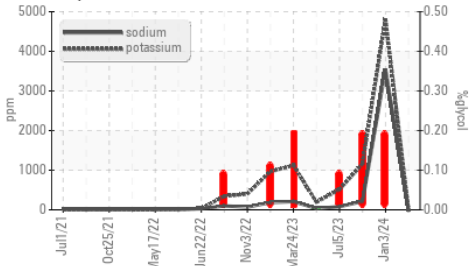
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.5	14.8	13.8
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.8	62.9	10.4

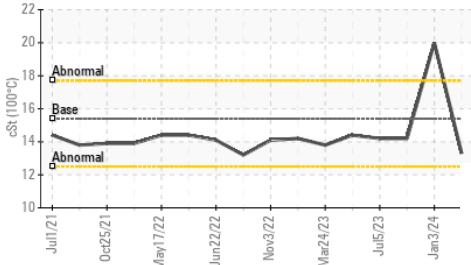


OIL ANALYSIS REPORT

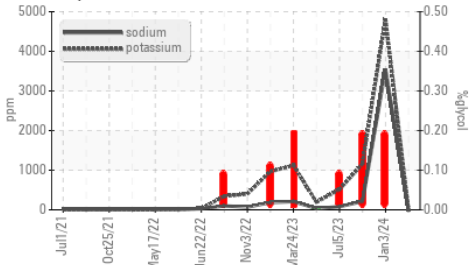
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

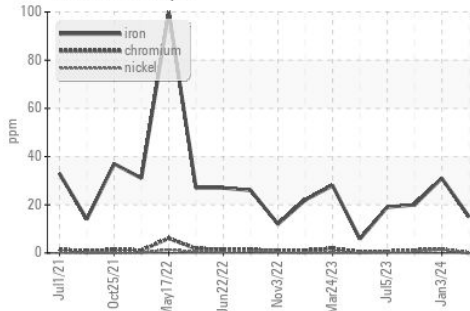


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

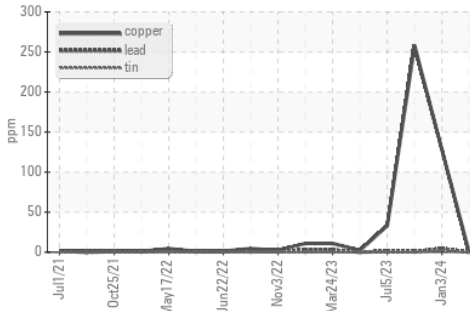
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	▲ 20.0	14.2

GRAPHS

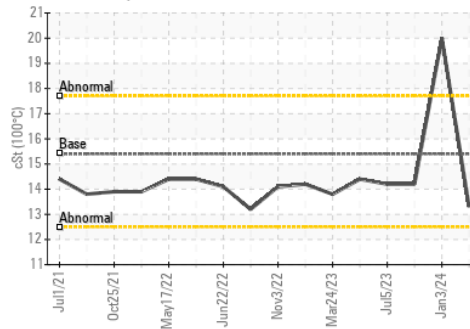
Ferrous Alloys



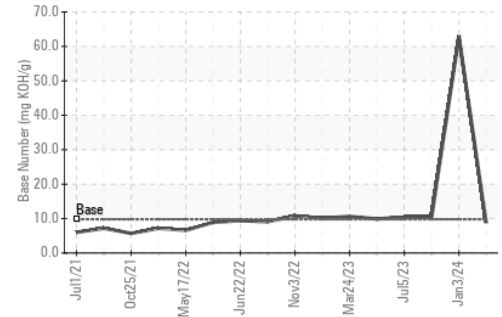
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0058061
Lab Number : **06116802**
Unique Number : 10925635
Test Package : FLEET

Received : 13 Mar 2024
Tested : 14 Mar 2024
Diagnosed : 14 Mar 2024 - Jonathan Hester

GFL Environmental - 657 - Charlottesville Hauling
 5498 Richmond Road
 Troy, VA
 US 22974
 Contact: Brian Ulickas
 bulickas@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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F: