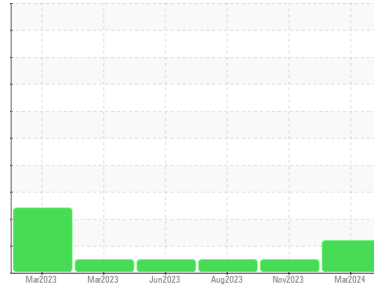




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
WL0093-325
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. We recommend an early resample to monitor this condition. (Customer Sample Comment: Sampled oil)

Wear

All 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		GFL0110343	GFL0090484	GFL0090508
Sample Date	Client Info		08 Mar 2024	21 Nov 2023	30 Aug 2023
Machine Age	hrs	Client Info	11947	11947	11947
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Not Changed	Not Changed	Not Changed
Sample Status			ABNORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>6.0	<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 >200	16	10	9
Chromium	ppm	ASTM D5185m >20	1	<1	<1
Nickel	ppm	ASTM D5185m >5	0	<1	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >30	18	7	5
Lead	ppm	ASTM D5185m >40	0	<1	0
Copper	ppm	ASTM D5185m >20	1	<1	<1
Tin	ppm	ASTM D5185m >20	<1	<1	<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	0	5	4
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	69	59	65
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	975	902	1006
Calcium	ppm	ASTM D5185m 1070	1197	1095	1189
Phosphorus	ppm	ASTM D5185m 1150	1075	1108	1091
Zinc	ppm	ASTM D5185m 1270	1299	1250	1330
Sulfur	ppm	ASTM D5185m 2060	3414	3038	3726

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	14	10	8
Sodium	ppm	ASTM D5185m	▲ 76	17	14
Potassium	ppm	ASTM D5185m >20	11	5	3

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.7	0.6	0.4
Nitration	Abs/cm	*ASTM D7624 >20	10.5	9.4	7.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.7	20.4	18.9

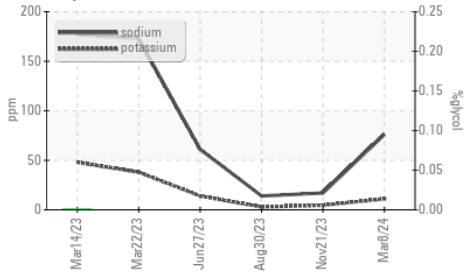
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.6	17.1	15.1
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.6	8.1	8.4

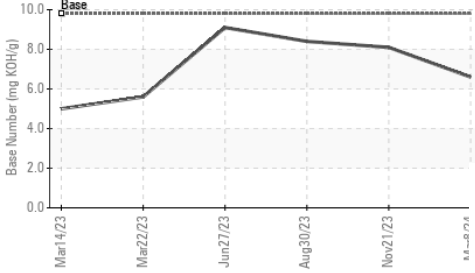


OIL ANALYSIS REPORT

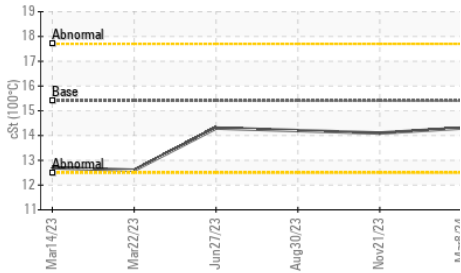
▲ Glycol Contamination



Base Number



Viscosity @ 100°C

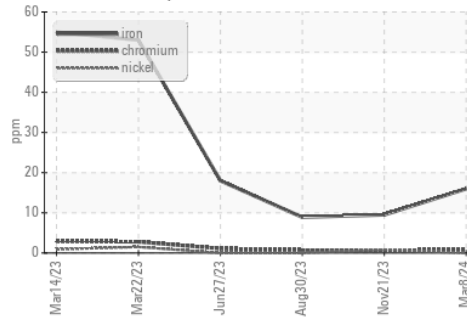


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

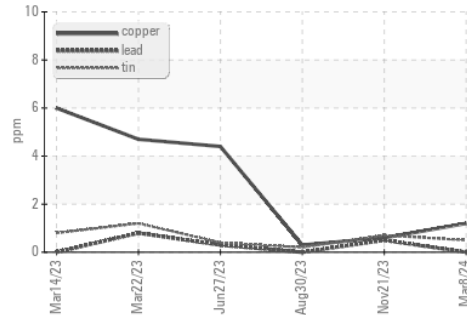
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.1

GRAPHS

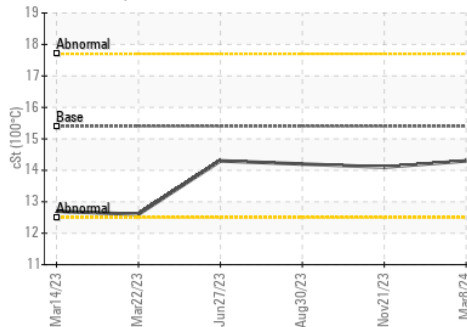
Ferrous Alloys



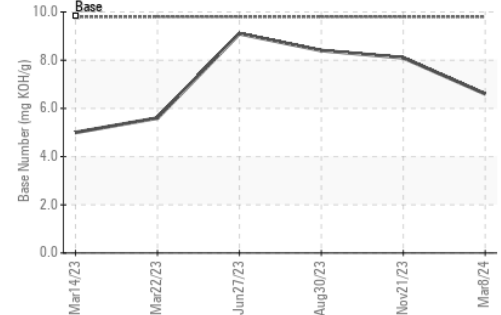
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0110343
 Lab Number : 06116384
 Unique Number : 10925217
 Test Package : FLEET

Received : 12 Mar 2024
 Tested : 13 Mar 2024
 Diagnosed : 14 Mar 2024 - Don Baldrige

GFL Environmental - 622 - Traverse City Hauling
 160 Hughes Dr
 Traverse City, MI
 US 49686
 Contact: GARY BREWER

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)

T:
F: