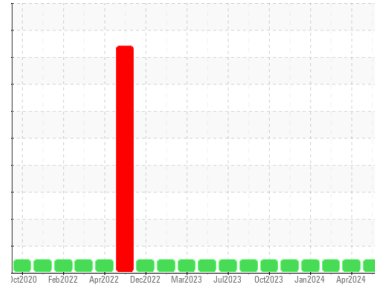




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
829030-1081

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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		GFL0113665	GFL0113606	GFL0113628
Sample Date	Client Info		14 Jun 2024	15 Apr 2024	01 Apr 2024
Machine Age	hrs	Client Info	12904	12433	12377
Oil Age	hrs	Client Info	471	570	514
Oil Changed	Client Info		Changed	Changed	Not Changed
Sample Status			NORMAL	NORMAL	NORMAL

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	5	10	5
Chromium	ppm	ASTM D5185m >4	0	<1	0
Nickel	ppm	ASTM D5185m >2	<1	<1	0
Titanium	ppm	ASTM D5185m	0	<1	0
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >25	2	2	2
Lead	ppm	ASTM D5185m >45	<1	2	<1
Copper	ppm	ASTM D5185m >85	1	1	<1
Tin	ppm	ASTM D5185m >4	0	<1	<1
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	6	3	4
Barium	ppm	ASTM D5185m 0	0	1	0
Molybdenum	ppm	ASTM D5185m 60	53	62	52
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	925	957	789
Calcium	ppm	ASTM D5185m 1070	1084	1104	1299
Phosphorus	ppm	ASTM D5185m 1150	1020	978	1026
Zinc	ppm	ASTM D5185m 1270	1232	1204	1232
Sulfur	ppm	ASTM D5185m 2060	3393	2896	3093

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >30	5	9	6
Sodium	ppm	ASTM D5185m	5	6	4
Potassium	ppm	ASTM D5185m >20	4	9	1

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.3	0.3	0.3
Nitration	Abs/cm	*ASTM D7624 >20	7.9	8.1	8.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.8	19.4	19.7

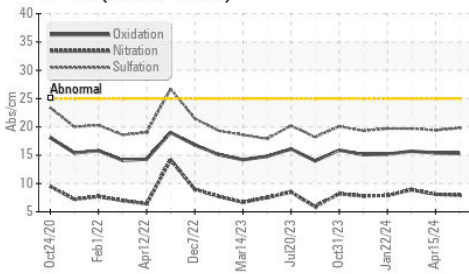
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.3	15.4	15.7
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.0	7.8	7.3

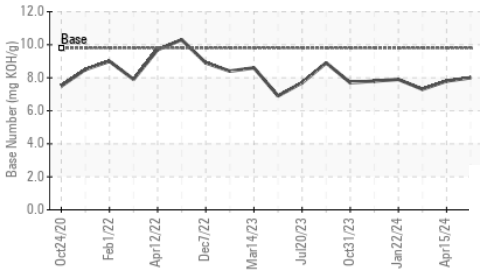


OIL ANALYSIS REPORT

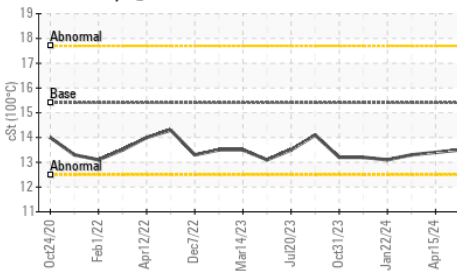
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C



VISUAL

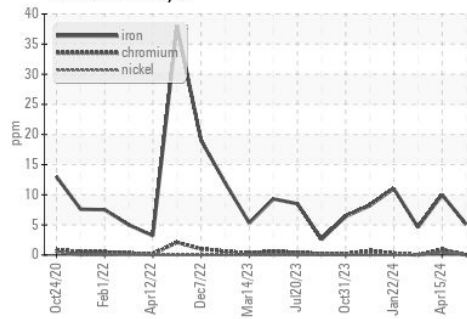
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

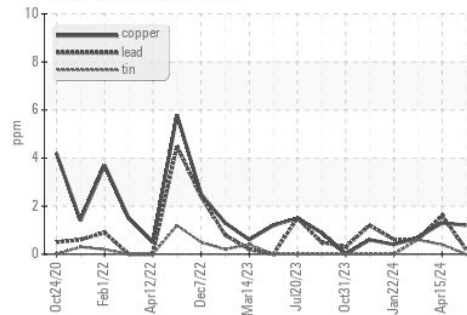
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.4

GRAPHS

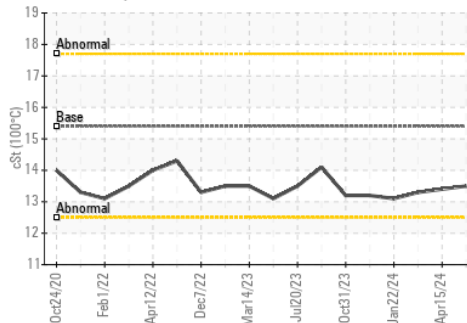
Ferrous Alloys



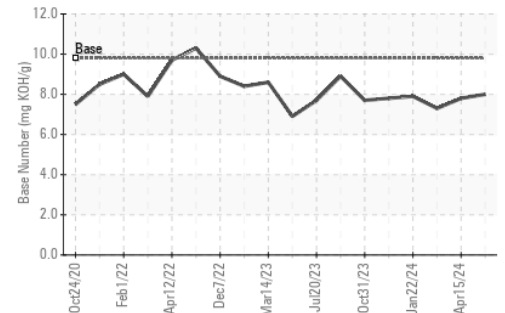
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0113665
 Lab Number : 06212766
 Unique Number : 11085630
 Test Package : FLEET

Received : 17 Jun 2024
 Tested : 19 Jun 2024
 Diagnosed : 19 Jun 2024 - Wes Davis

GFL Environmental - 654S - Midlothian
 12230 Deergrove Road
 Midlothian, VA
 US 23112
 Contact: Corbin Umphlet
 cumphlet@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)

T:
F: