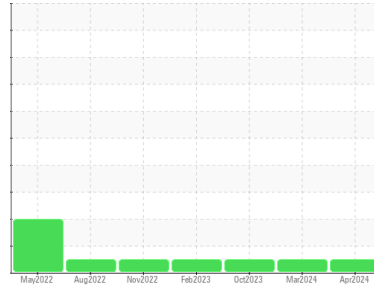




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

412018

Component

Diesel Engine

Fluid

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

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		GFL0110201	GFL0110186	GFL0085574
Sample Date	Client Info		10 Apr 2024	05 Mar 2024	17 Oct 2023
Machine Age	hrs	Client Info	4989	4863	4125
Oil Age	hrs	Client Info	600	600	600
Oil Changed	Client Info		Changed	Changed	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 >100	2	13	3
Chromium	ppm	ASTM D5185m >20	0	<1	<1
Nickel	ppm	ASTM D5185m >4	0	2	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	0	<1
Aluminum	ppm	ASTM D5185m >20	<1	3	2
Lead	ppm	ASTM D5185m >40	<1	0	<1
Copper	ppm	ASTM D5185m >330	<1	2	<1
Tin	ppm	ASTM D5185m >15	<1	<1	1
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	3	<1	3
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	54	63	59
Manganese	ppm	ASTM D5185m 0	0	<1	<1
Magnesium	ppm	ASTM D5185m 1010	861	941	962
Calcium	ppm	ASTM D5185m 1070	1071	1070	1061
Phosphorus	ppm	ASTM D5185m 1150	991	958	1051
Zinc	ppm	ASTM D5185m 1270	1168	1205	1309
Sulfur	ppm	ASTM D5185m 2060	3486	2819	3127

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	2	4	5
Sodium	ppm	ASTM D5185m	4	4	13
Potassium	ppm	ASTM D5185m >20	16	6	7

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.1	0.3	0.2
Nitration	Abs/cm	*ASTM D7624 >20	5.3	8.7	6.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	17.4	19.6	19.2

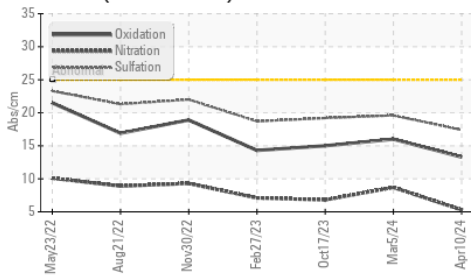
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.3	16.0	15.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.4	6.8	8.4

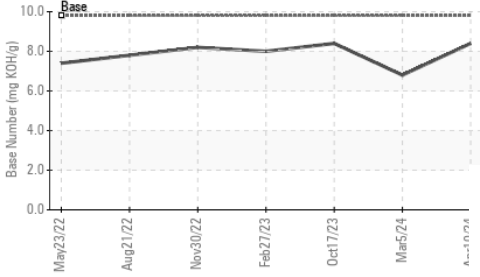


OIL ANALYSIS REPORT

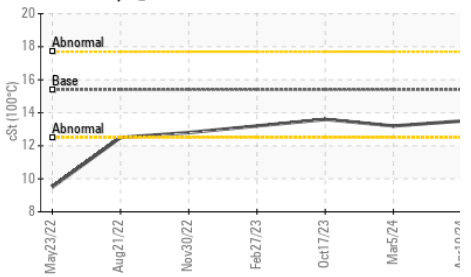
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

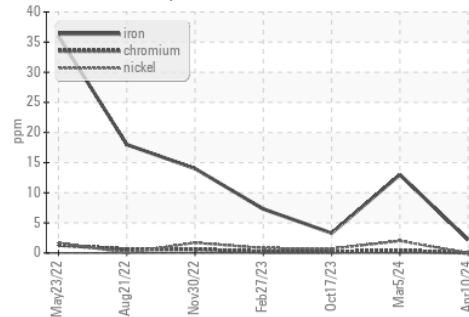


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

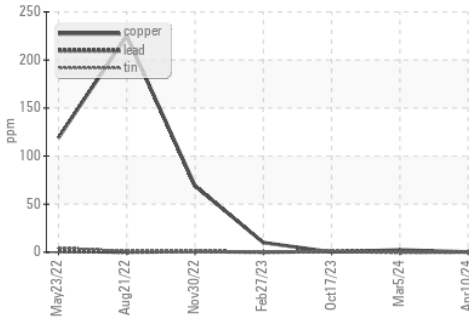
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.2

GRAPHS

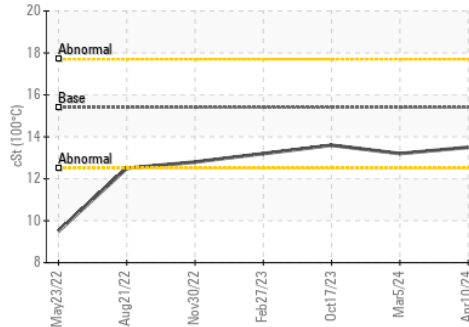
Ferrous Alloys



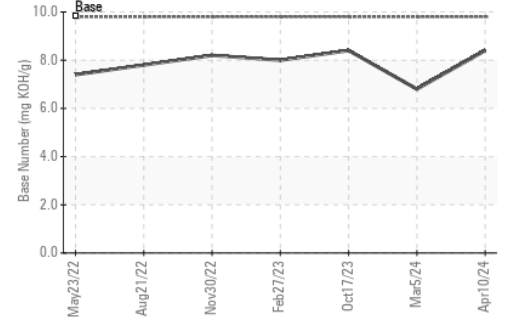
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0110201
 Lab Number : 06150938
 Unique Number : 10981016
 Test Package : FLEET

Received : 16 Apr 2024
 Tested : 17 Apr 2024
 Diagnosed : 17 Apr 2024 - Wes Davis

GFL Environmental - 660 - Lynchburg Hauling
 2410 Mayflower Drive
 Lynchburg, VA
 US 24501

Contact: Delbert Beasley
 dbeasley@countyrecycling.net
 T: (434)665-5998

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)