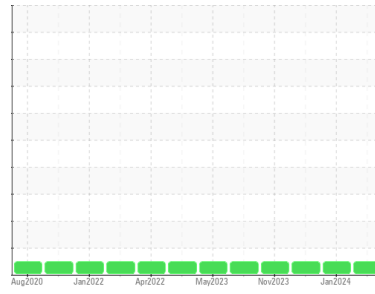




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

825023-146

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	GFL0113630	GFL0103841	GFL0103840	
Sample Date	Client Info	01 Apr 2024	16 Jan 2024	03 Jan 2024	
Machine Age	hrs	Client Info	2037	1613	170078
Oil Age	hrs	Client Info	435	530	578
Oil Changed	Client Info	Not Chngd	Not Chngd	Changed	
Sample Status		NORMAL	NORMAL	NORMAL	

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<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 >120	10	7	63
Chromium	ppm ASTM D5185m >20	0	<1	1
Nickel	ppm ASTM D5185m >5	0	0	<1
Titanium	ppm ASTM D5185m >2	<1	0	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	3	3	13
Lead	ppm ASTM D5185m >40	0	<1	5
Copper	ppm ASTM D5185m >330	<1	<1	4
Tin	ppm ASTM D5185m >15	0	0	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	1	3	3
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	59	56	65
Manganese	ppm ASTM D5185m 0	<1	0	1
Magnesium	ppm ASTM D5185m 1010	1020	1059	1047
Calcium	ppm ASTM D5185m 1070	1160	1071	1177
Phosphorus	ppm ASTM D5185m 1150	1073	1118	1122
Zinc	ppm ASTM D5185m 1270	1347	1355	1452
Sulfur	ppm ASTM D5185m 2060	3933	3453	2614

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	4	3	10
Sodium	ppm ASTM D5185m	2	2	9
Potassium	ppm ASTM D5185m >20	1	4	2

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.7	0.4	2.6
Nitration	Abs/cm *ASTM D7624 >20	7.7	6.1	13.6
Sulfation	Abs/.1mm *ASTM D7415 >30	18.6	18.5	28.5

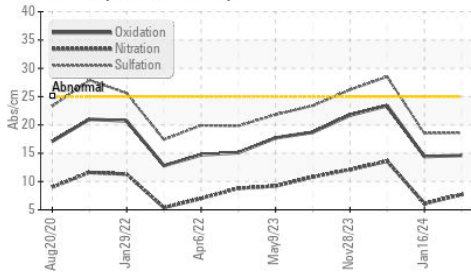
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.6	14.4	23.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	6.9	8.7	4.0

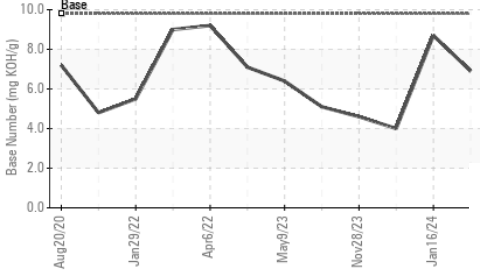


OIL ANALYSIS REPORT

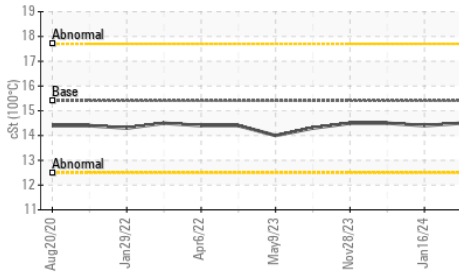
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C



VISUAL

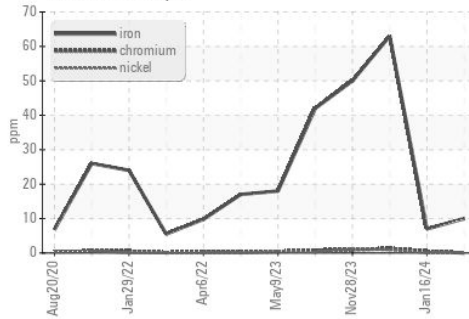
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

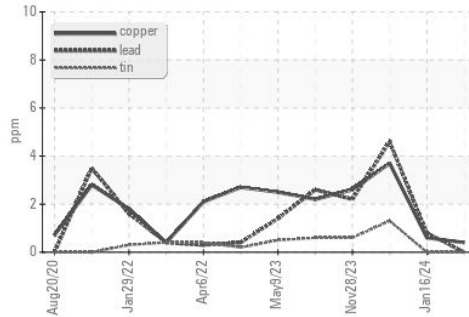
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	14.4

GRAPHS

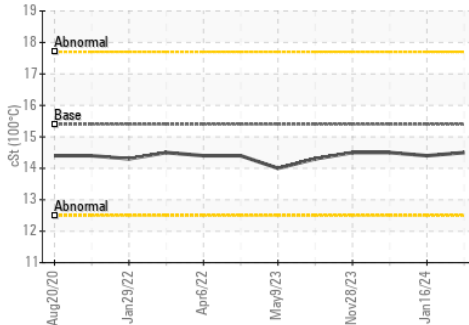
Ferrous Alloys



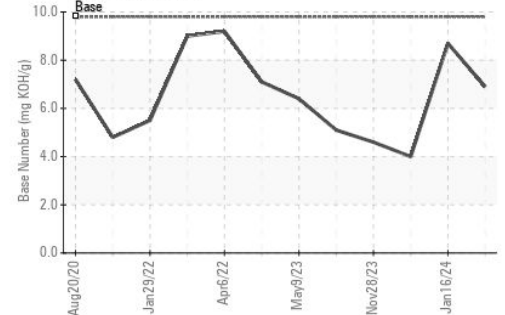
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0113630
 Lab Number : 06142098
 Unique Number : 10966906
 Test Package : FLEET

Received : 08 Apr 2024
 Tested : 09 Apr 2024
 Diagnosed : 09 Apr 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: