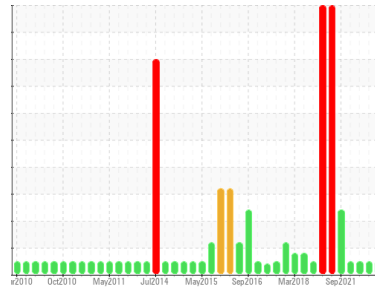




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

1956

Component

Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (42 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	history 1	history 2
Sample Number	Client Info	GFL0072367	GFL0048913	GFL0048885
Sample Date	Client Info	04 May 2023	29 Dec 2022	11 Jul 2022
Machine Age	hrs	Client Info	17542	0
Oil Age	hrs	Client Info	152	725
Oil Changed	Client Info	Not Changed	Changed	Not Changed
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history 1	history 2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history 1	history 2
Iron	ppm ASTM D5185m >90	18	76	56
Chromium	ppm ASTM D5185m >20	2	6	4
Nickel	ppm ASTM D5185m >2	<1	2	<1
Titanium	ppm ASTM D5185m >2	0	<1	<1
Silver	ppm ASTM D5185m >2	0	0	<1
Aluminum	ppm ASTM D5185m >20	1	13	8
Lead	ppm ASTM D5185m >40	<1	5	4
Copper	ppm ASTM D5185m >330	22	61	40
Tin	ppm ASTM D5185m >15	0	<1	1
Antimony	ppm ASTM D5185m	---	---	---
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history 1	history 2
Boron	ppm ASTM D5185m 0	26	8	9
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	58	62	60
Manganese	ppm ASTM D5185m 0	<1	1	<1
Magnesium	ppm ASTM D5185m 1010	972	910	931
Calcium	ppm ASTM D5185m 1070	1080	1095	1154
Phosphorus	ppm ASTM D5185m 1150	1062	1019	979
Zinc	ppm ASTM D5185m 1270	1319	1249	1210
Sulfur	ppm ASTM D5185m 2060	3727	3216	3355

CONTAMINANTS

method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185m >25	8	13	9
Sodium	ppm ASTM D5185m	47	8	5
Potassium	ppm ASTM D5185m >20	4	7	4

INFRA-RED

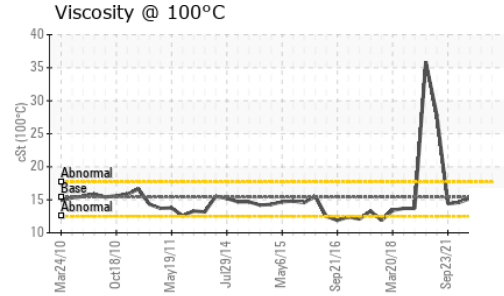
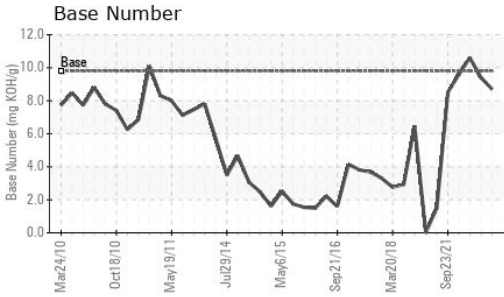
method	limit/base	current	history 1	history 2
Soot %	% *ASTM D7844 >6	1.7	2.3	2.2
Nitration	Abs/cm *ASTM D7624 >20	6.7	12.6	11.4
Sulfation	Abs/.1mm *ASTM D7415 >30	19.3	27.2	25.5

FLUID DEGRADATION

method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.4	21.2	19.4
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.7	9.4	10.6



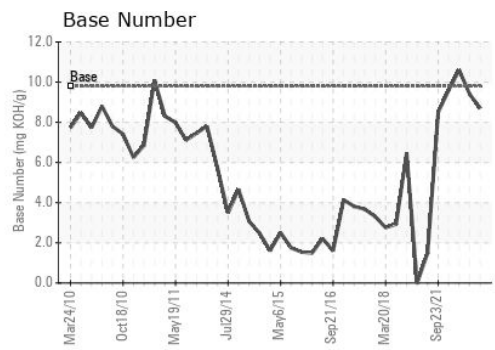
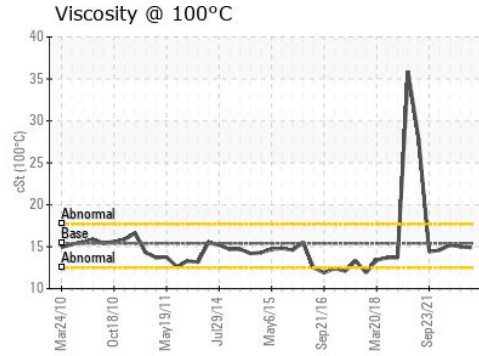
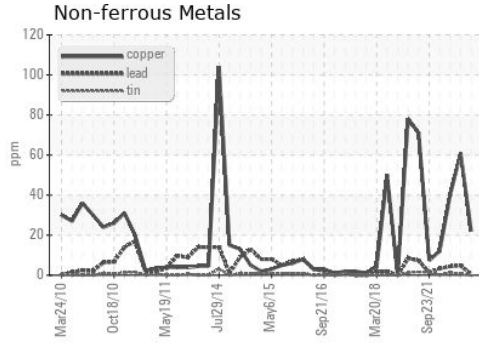
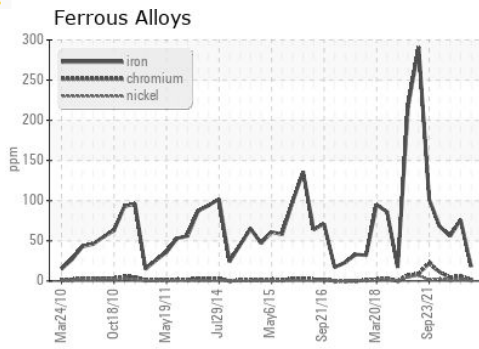
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
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	history 1	history 2	
Visc @ 100°C	cSt	ASTM D445	15.4	14.9	15.0	15.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0072367
Lab Number : **05841841**
Unique Number : 10465948
Test Package : FLEET
Received : 09 May 2023
Diagnosed : 09 May 2023
Diagnostician : Wes Davis

GFL Environmental - 005 - Wilson/Tri-East(CNG)
 2810 Contentnea Road S
 Wilson, NC
 US 27893-8501
 Contact: SPENCER LIGGON
 spencer.liggon@gflenv.com
 T: (800)207-6618
 F:

Certificate L2367
 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)