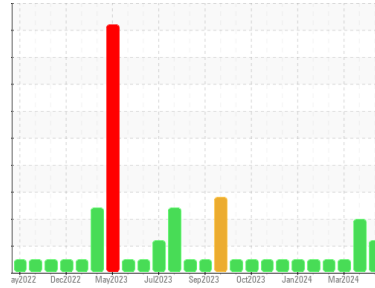




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
711011

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0105112	GFL0105119	GFL0105242
Sample Date	Client Info	25 Mar 2024	19 Mar 2024	06 Mar 2024
Machine Age	hrs	8552	8515	8781
Oil Age	hrs	600	400	450
Oil Changed	Client Info	Changed	Not Changd	Not Changd
Sample Status		ABNORMAL	ABNORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method	NEG	NEG	NEG
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >100	34	29	10
Chromium	ppm	ASTM D5185m >20	2	<1	0
Nickel	ppm	ASTM D5185m >4	1	0	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	16	▲ 15	<1
Lead	ppm	ASTM D5185m >40	1	0	0
Copper	ppm	ASTM D5185m >330	2	<1	4
Tin	ppm	ASTM D5185m >15	1	0	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 0	2	0	0
Barium	ppm	ASTM D5185m 0	<1	0	0
Molybdenum	ppm	ASTM D5185m 60	58	55	59
Manganese	ppm	ASTM D5185m 0	1	0	0
Magnesium	ppm	ASTM D5185m 1010	882	881	909
Calcium	ppm	ASTM D5185m 1070	1067	1019	1022
Phosphorus	ppm	ASTM D5185m 1150	1086	975	912
Zinc	ppm	ASTM D5185m 1270	1197	1135	1114
Sulfur	ppm	ASTM D5185m 2060	3116	3208	2755

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	8	5	2
Sodium	ppm	ASTM D5185m	24	22	3
Potassium	ppm	ASTM D5185m >20	27	19	0
Fuel	%	ASTM D3524 >5	▲ 5.4	▲ 5.6	<1.0

INFRA-RED

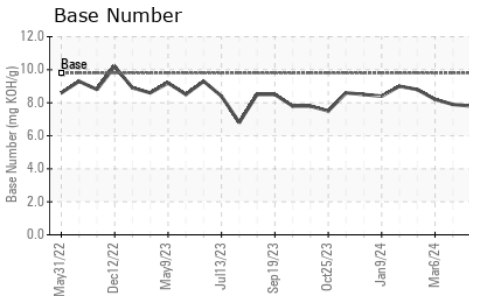
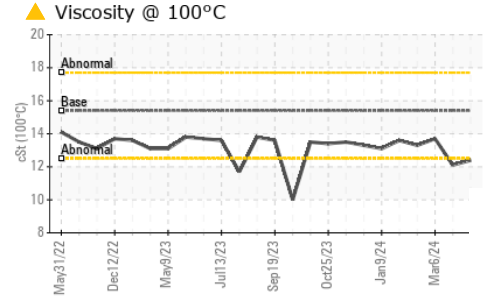
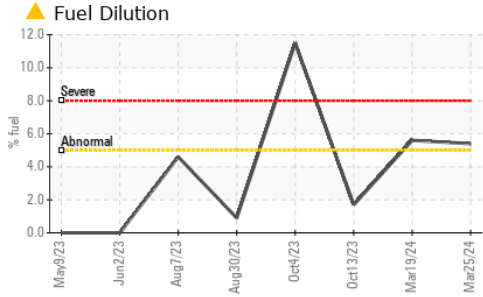
method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844 >3	1.2	1.1	0.5
Nitration	Abs/cm	*ASTM D7624 >20	10.1	9.6	7.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.1	19.7	18.6

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.9	15.4	14.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.8	7.9	8.2



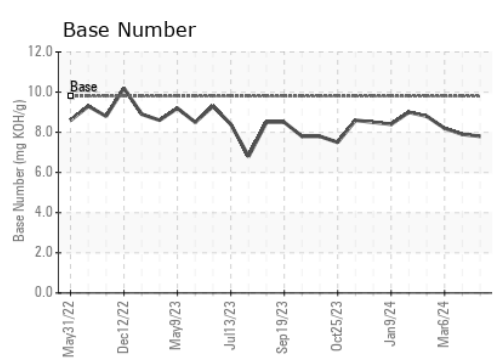
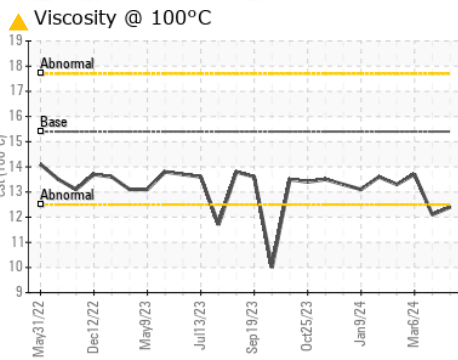
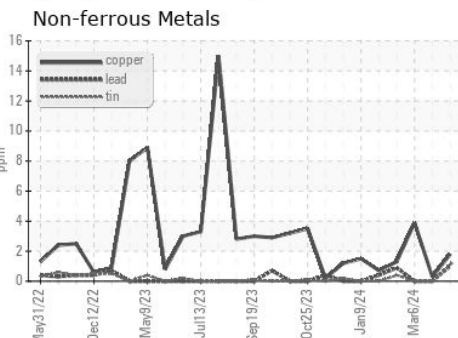
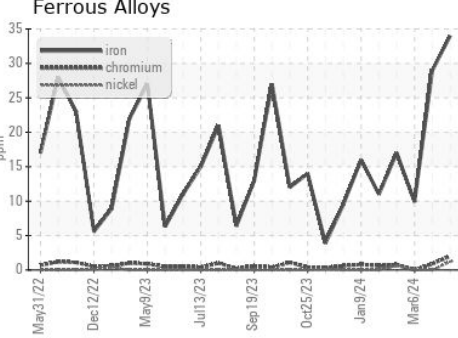
OIL ANALYSIS REPORT



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	▲ 12.4	▲ 12.1	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0105112 Received : 27 Mar 2024
 Lab Number : 06130388 Tested : 02 Apr 2024
 Unique Number : 10949853 Diagnosed : 02 Apr 2024 - Wes Davis
 Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 821 - Ozarks Hauling
 33924 Olath Drive
 Lebanon, MO
 US 65536
 Contact: Landen Johnson
 landen.johnson@gflenv.com
 T: (417)664-0010
 F:

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)