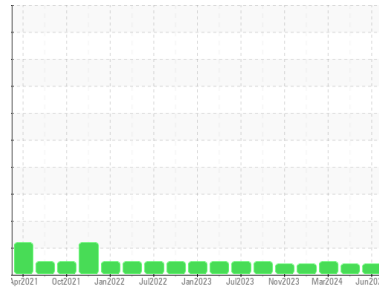




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id
420009-1310

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (46 QTS)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. 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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0120901	GFL0110340	GFL0110296
Sample Date	Client Info	26 Jun 2024	02 Apr 2024	05 Mar 2024
Machine Age	hrs	9552	9018	8878
Oil Age	hrs	580	580	436
Oil Changed	Client Info	Changed	Changed	Not Changed
Sample Status		ATTENTION	ATTENTION	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >2.0	<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 >100	17	14	8
Chromium	ppm ASTM D5185m >20	1	1	<1
Nickel	ppm ASTM D5185m >4	<1	<1	0
Titanium	ppm ASTM D5185m	<1	<1	0
Silver	ppm ASTM D5185m >3	<1	<1	0
Aluminum	ppm ASTM D5185m >20	7	4	3
Lead	ppm ASTM D5185m >40	2	1	<1
Copper	ppm ASTM D5185m >330	<1	1	<1
Tin	ppm ASTM D5185m >15	<1	<1	0
Vanadium	ppm ASTM D5185m	<1	<1	0
Cadmium	ppm ASTM D5185m	<1	<1	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	8	7	4
Barium	ppm ASTM D5185m 0	<1	0	0
Molybdenum	ppm ASTM D5185m 60	71	64	57
Manganese	ppm ASTM D5185m 0	<1	<1	0
Magnesium	ppm ASTM D5185m 1010	1048	933	864
Calcium	ppm ASTM D5185m 1070	1247	1140	1009
Phosphorus	ppm ASTM D5185m 1150	1260	1088	917
Zinc	ppm ASTM D5185m 1270	1440	1249	1149
Sulfur	ppm ASTM D5185m 2060	3447	3186	2828

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	5	4	3
Sodium	ppm ASTM D5185m	5	3	4
Potassium	ppm ASTM D5185m >20	14	6	4

INFRA-RED

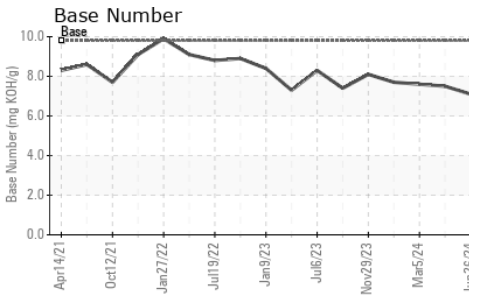
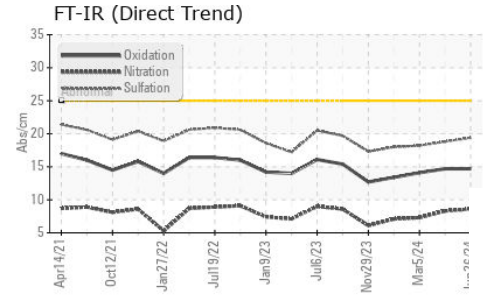
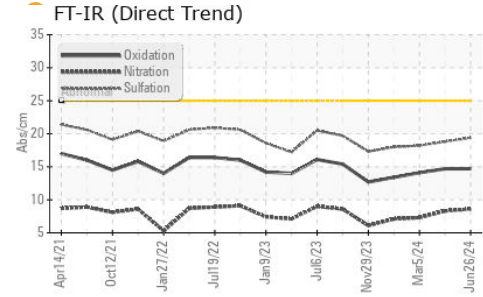
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.4	0.4	0.3
Nitration	Abs/cm *ASTM D7624 >20	8.6	8.3	7.3
Sulfation	Abs.1mm *ASTM D7415 >30	19.4	18.8	18.2

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs.1mm *ASTM D7414 >25	14.7	14.7	14.1
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.1	7.5	7.6



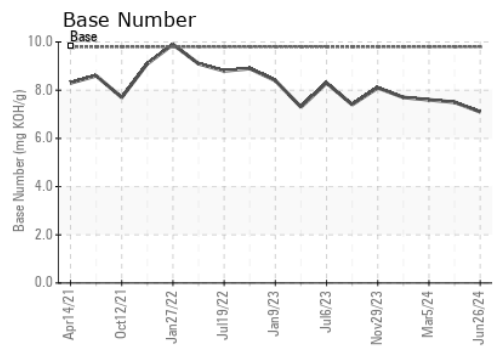
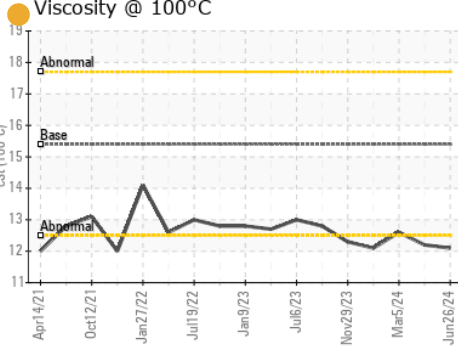
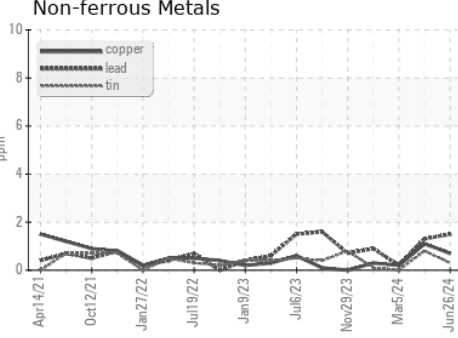
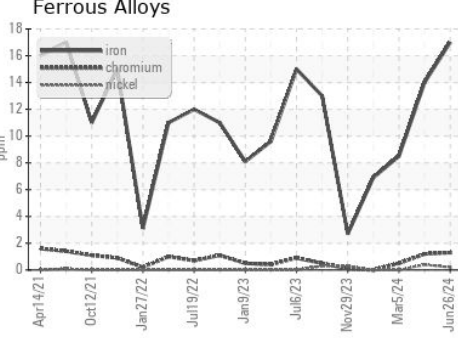
OIL ANALYSIS REPORT



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	● 12.1	● 12.2	12.6

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0120901 **Received** : 28 Jun 2024
Lab Number : 06224227 **Tested** : 01 Jul 2024
Unique Number : 11102424 **Diagnosed** : 01 Jul 2024 - Angela Borella
Test Package : FLEET

GFL Environmental - 622 - Traverse City Hauling
 160 Hughes Dr
 Traverse City, MI
 US 49686
 Contact: GARY BREWER

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)