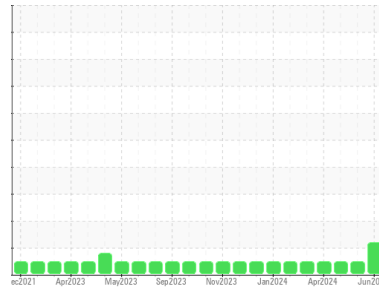




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
811042-101311

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

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

Sodium and/or potassium levels are high. Test for glycol is negative.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0123010	GFL0119398	GFL0119416
Sample Date	Client Info		13 Jun 2024	14 May 2024	30 Apr 2024
Machine Age	hrs	Client Info	5783	5591	5487
Oil Age	hrs	Client Info	192	104	185
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ATTENTION	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

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	20	13	7
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	10	7	4
Lead	ppm	ASTM D5185m	>40	<1	<1	2
Copper	ppm	ASTM D5185m	>330	2	0	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	2
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	2

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	8	8	2
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	63	62	52
Manganese	ppm	ASTM D5185m	0	<1	<1	1
Magnesium	ppm	ASTM D5185m	1010	1011	993	1033
Calcium	ppm	ASTM D5185m	1070	1088	1064	1117
Phosphorus	ppm	ASTM D5185m	1150	1109	1063	1119
Zinc	ppm	ASTM D5185m	1270	1331	1258	1320
Sulfur	ppm	ASTM D5185m	2060	3761	3528	3987

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	7	6	4
Sodium	ppm	ASTM D5185m		86	44	18
Potassium	ppm	ASTM D5185m	>20	24	11	7
Glycol	%	*ASTM D2982		NEG	NEG	NEG

INFRA-RED

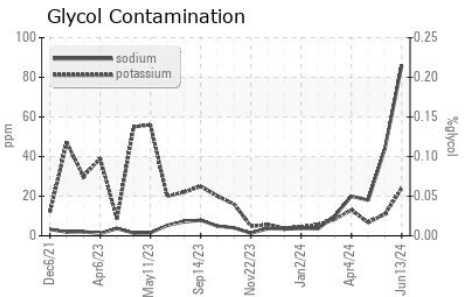
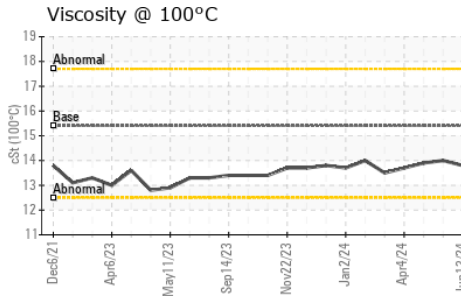
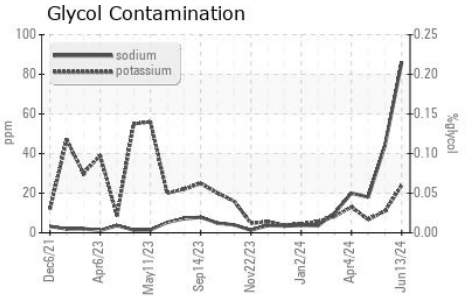
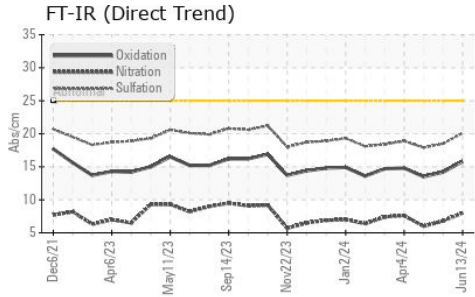
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>3	0.5	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.0	6.8	6.0
Sulfation	Abs.1mm	*ASTM D7415	>30	20.1	18.5	17.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs.1mm	*ASTM D7414	>25	15.8	14.2	13.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.5	8.6	8.7



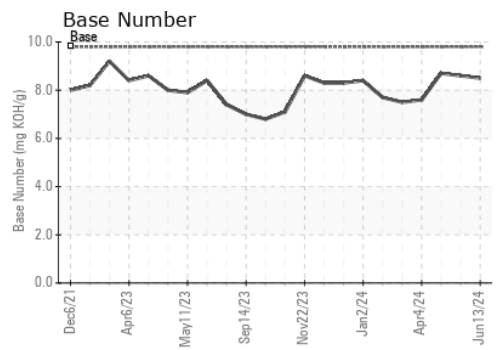
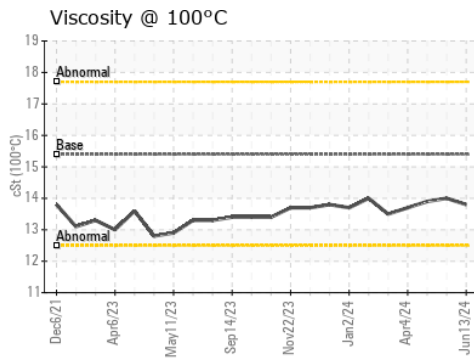
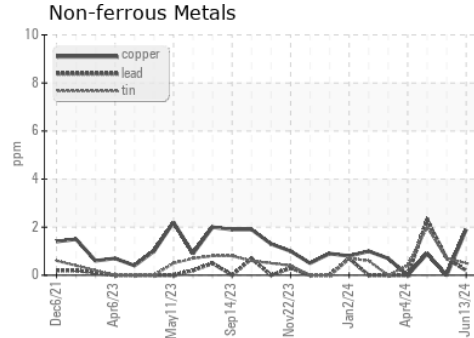
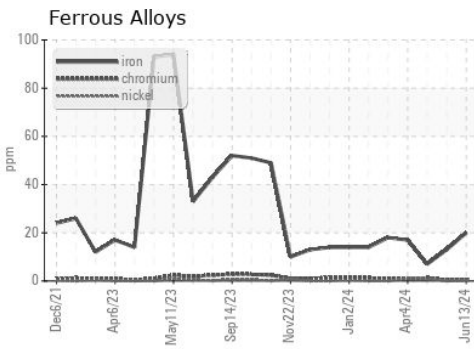
OIL ANALYSIS REPORT



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	13.8	14.0	13.9

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0123010 **Received** : 21 Jun 2024
Lab Number : **06217643** **Tested** : 25 Jun 2024
Unique Number : 11090507 **Diagnosed** : 25 Jun 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 814 - Little Rock Hauling
 4005 Hwy 161 N.
 Little Rock, AR
 US 72117
 Contact: Brad Koenig
 bkoenig@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)