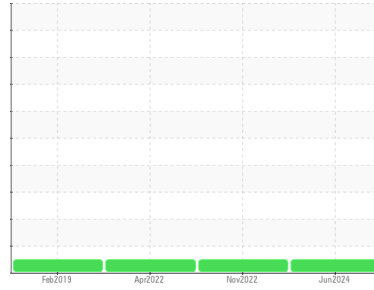




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
227059-632107

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- 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	history1	history2
Sample Number	Client Info		GFL0087920	GFL0051482	GFL0041187
Sample Date	Client Info		23 Jun 2024	09 Nov 2022	11 Apr 2022
Machine Age	hrs	Client Info	0	2244	2004
Oil Age	hrs	Client Info	0	450	160
Oil Changed	Client Info		N/A	Changed	Changed
Sample Status			NORMAL	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
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	19	27	21
Chromium	ppm	ASTM D5185m >20	1	1	<1
Nickel	ppm	ASTM D5185m >2	<1	<1	0
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	<1	0	<1
Aluminum	ppm	ASTM D5185m >25	5	6	4
Lead	ppm	ASTM D5185m >40	<1	<1	<1
Copper	ppm	ASTM D5185m >330	2	2	1
Tin	ppm	ASTM D5185m >15	<1	<1	0
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	<1	<1	0
Cadmium	ppm	ASTM D5185m	<1	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	12	4	20
Barium	ppm	ASTM D5185m 0	1	0	0
Molybdenum	ppm	ASTM D5185m 60	55	60	66
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	911	986	901
Calcium	ppm	ASTM D5185m 1070	1097	1129	1160
Phosphorus	ppm	ASTM D5185m 1150	1039	1012	1038
Zinc	ppm	ASTM D5185m 1270	1241	1320	1234
Sulfur	ppm	ASTM D5185m 2060	3114	3456	2459
Lithium	ppm	ASTM D5185m	---	---	---

CONTAMINANTS

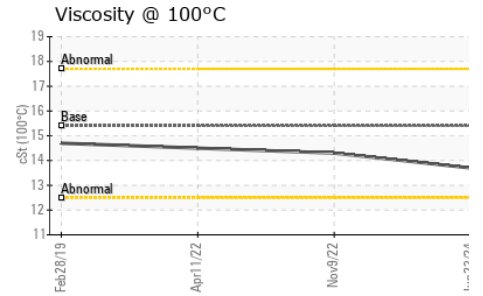
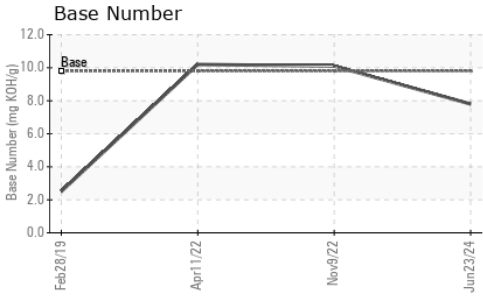
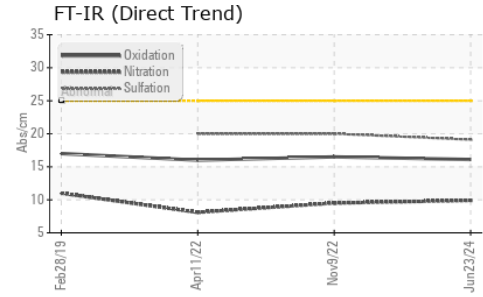
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	8	5	8
Sodium	ppm	ASTM D5185m	3	2	1
Potassium	ppm	ASTM D5185m >20	3	2	2

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.5	0.6	0.3
Nitration	Abs/cm	*ASTM D7624 >20	9.9	9.5	8.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.1	20.0	20.0



OIL ANALYSIS REPORT

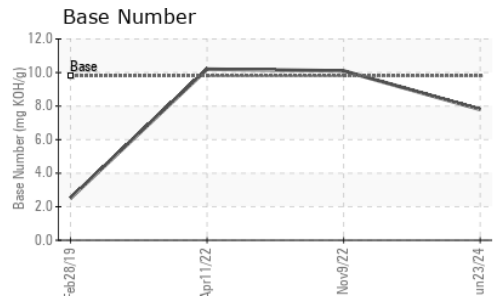
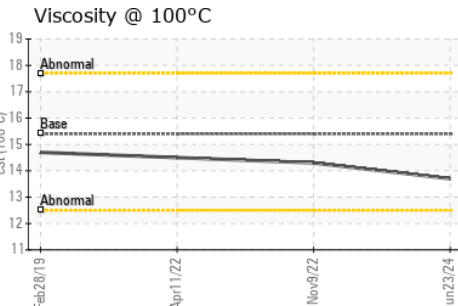
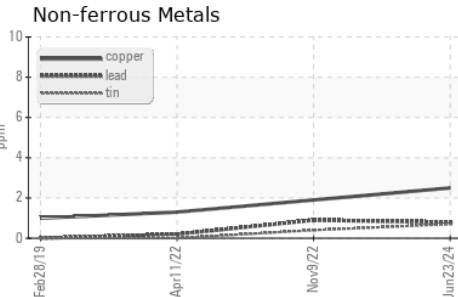
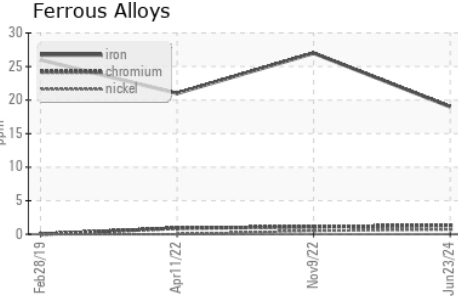


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	*ASTM D7414	>25	16.1	16.5	16.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.8	10.1	10.2

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.7	14.3	14.5

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0087920
Lab Number : **06217887**
Unique Number : 11096084
Test Package : FLEET
Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 2024 - Wes Davis

GFL Environmental - 859 - Bay City
 700 Avenue F
 Bay City, TX
 US 77414
 Contact: JONATHON BROWN
 jonathon.brown@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)