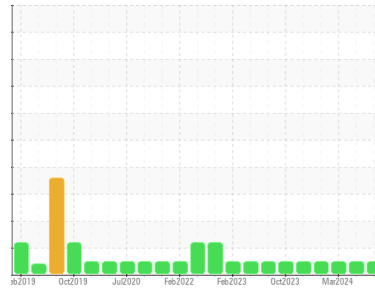




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
928067-205259

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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	GFL0118476	GFL0118486	GFL0095307
Sample Date	Client Info	15 Apr 2024	04 Apr 2024	06 Mar 2024
Machine Age	hrs	Client Info	0	15914
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	Not Changed	Not Changed	Not 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

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	40	32	10
Chromium	ppm ASTM D5185m >20	1	1	<1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	22	10	2
Lead	ppm ASTM D5185m >40	0	<1	0
Copper	ppm ASTM D5185m >330	1	1	<1
Tin	ppm ASTM D5185m >15	<1	0	0
Vanadium	ppm ASTM D5185m	0	<1	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	1	0	1
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	67	66	65
Manganese	ppm ASTM D5185m 0	0	<1	0
Magnesium	ppm ASTM D5185m 1010	980	988	1045
Calcium	ppm ASTM D5185m 1070	1172	1142	1145
Phosphorus	ppm ASTM D5185m 1150	1184	1035	1062
Zinc	ppm ASTM D5185m 1270	1338	1221	1324
Sulfur	ppm ASTM D5185m 2060	3031	3294	3858

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	6	6	3
Sodium	ppm ASTM D5185m	13	19	19
Potassium	ppm ASTM D5185m >20	45	28	26
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

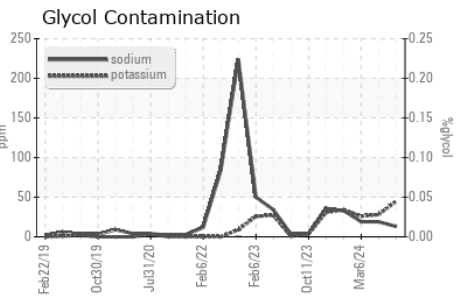
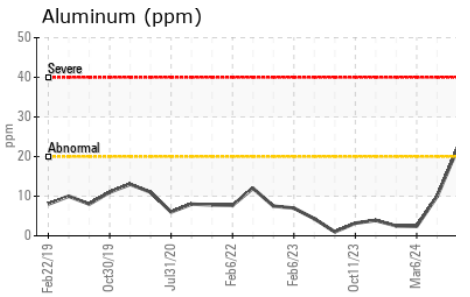
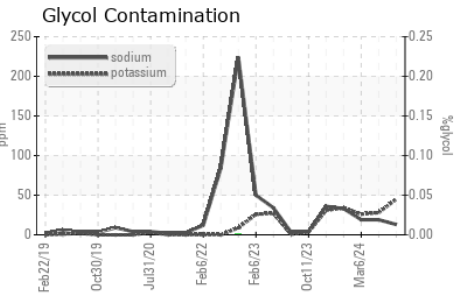
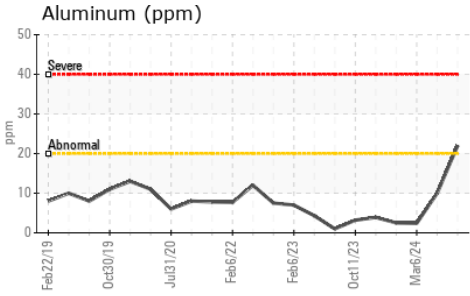
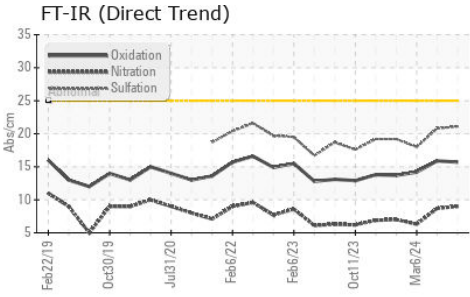
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	1.1	0.9	0.2
Nitration	Abs/cm *ASTM D7624 >20	9.0	8.7	6.3
Sulfation	Abs/.1mm *ASTM D7415 >30	21.1	20.8	18.0

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.7	15.9	14.2
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.8	8.3	8.7



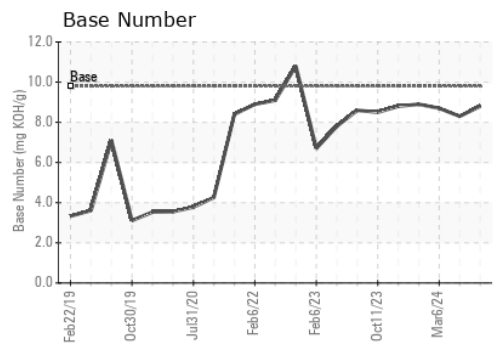
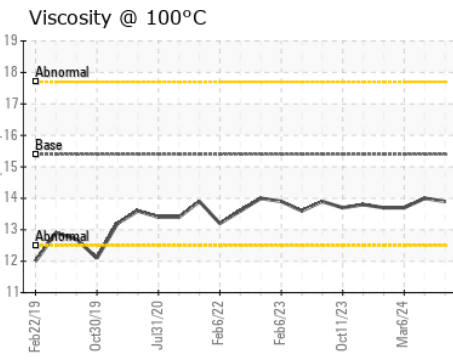
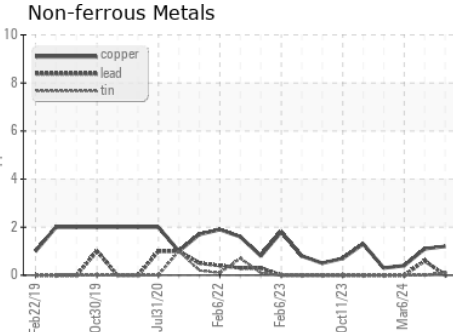
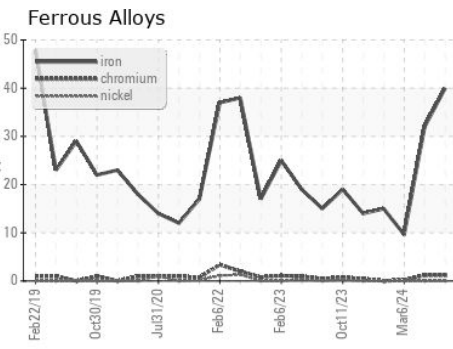
OIL ANALYSIS REPORT



PARAMETER	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	13.9	14.0

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0118476 **Received** : 17 Apr 2024
Lab Number : **06151785** **Tested** : 19 Apr 2024
Unique Number : 10981863 **Diagnosed** : 19 Apr 2024 - Sean Felton
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 893 - OK East Hauling
 2100 Lilly Street
 Seminole, OK
 US 74868
 Contact: Roger Barlow
 rbarlow@gflenv.com
 T: (405)204-6183
 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)