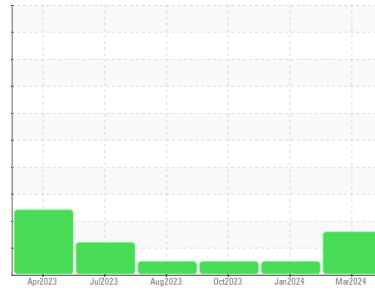




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
427167 - SW4743

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Engine)

Wear

All component wear rates are normal.

Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material.

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	GFL0112097	GFL0105509	GFL0085479
Sample Date	Client Info	28 Mar 2024	23 Jan 2024	13 Oct 2023
Machine Age	mls Client Info	373794	365361	356710
Oil Age	mls Client Info	373794	365361	356710
Oil Changed	Client Info	Changed	Changed	N/A
Sample Status		ABNORMAL	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	29	16	5
Chromium	ppm ASTM D5185m >20	0	<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	2	3	2
Lead	ppm ASTM D5185m >40	7	2	<1
Copper	ppm ASTM D5185m >330	4	0	<1
Tin	ppm ASTM D5185m >15	<1	<1	0
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	<1	0	0
Barium	ppm ASTM D5185m 0	<1	0	0
Molybdenum	ppm ASTM D5185m 60	62	59	55
Manganese	ppm ASTM D5185m 0	<1	1	<1
Magnesium	ppm ASTM D5185m 1010	23	11	11
Calcium	ppm ASTM D5185m 1070	2802	2643	2503
Phosphorus	ppm ASTM D5185m 1150	1217	1150	1134
Zinc	ppm ASTM D5185m 1270	1480	1296	1323
Sulfur	ppm ASTM D5185m 2060	4159	3215	3187

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 28	7	6
Sodium	ppm ASTM D5185m	3	18	14
Potassium	ppm ASTM D5185m >20	2	39	32

INFRA-RED

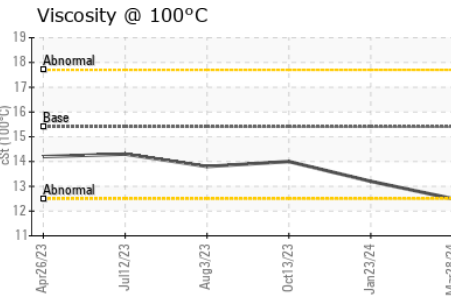
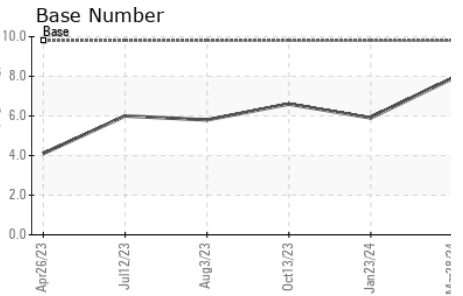
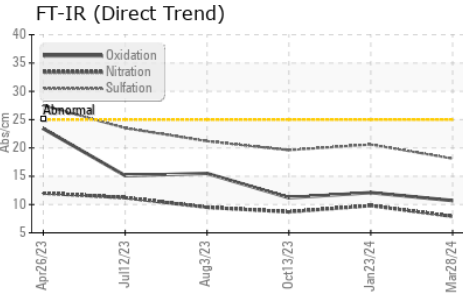
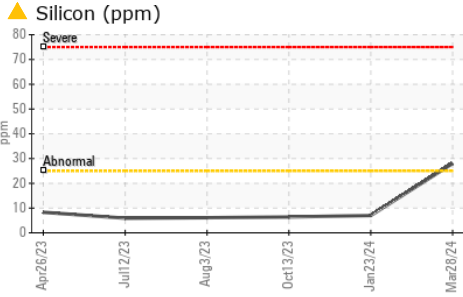
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.2	0.4	0.3
Nitration	Abs/cm *ASTM D7624 >20	7.9	9.8	8.7
Sulfation	Abs/.1mm *ASTM D7415 >30	18.1	20.6	19.6

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	10.7	12.1	11.2
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.9	5.9	6.6



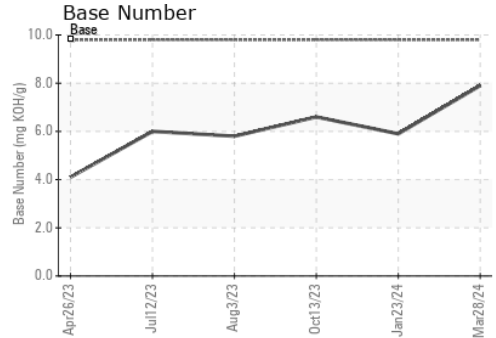
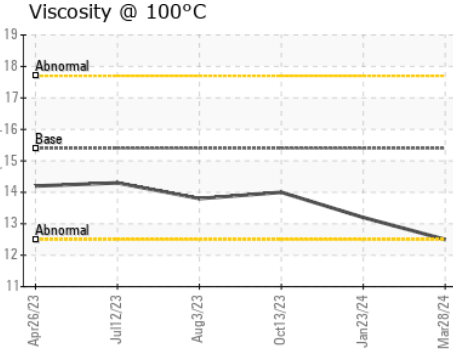
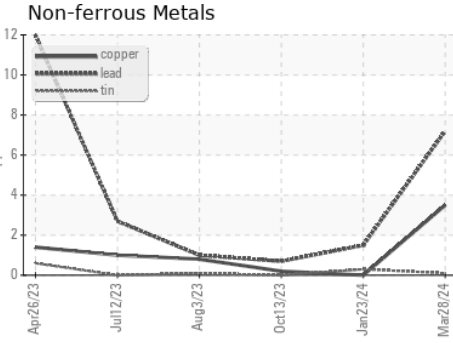
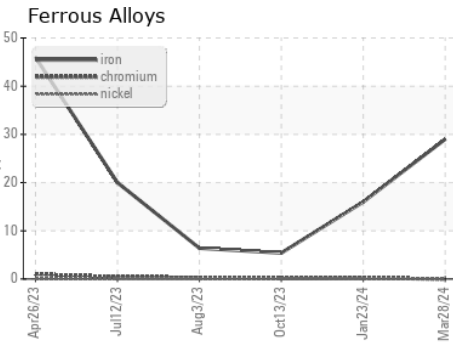
OIL ANALYSIS REPORT



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	12.5	13.2	14.0

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0112097
Lab Number : 06137155
Unique Number : 10956620
Test Package : FLEET
Received : 03 Apr 2024
Tested : 04 Apr 2024
Diagnosed : 05 Apr 2024 - Sean Felton

GFL Environmental - 983 - Sugar Land Hauling
 16011 West Belfort Street
 Sugar Land, TX
 US 77498
 Contact: Adrian Martinez
 adrianmartinez@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)