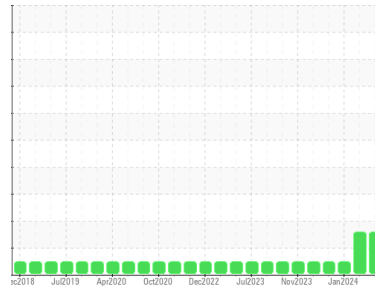




OIL ANALYSIS REPORT

Sample Rating Trend



DIRT



Machine Id
929084-260355

Component
Diesel Engine

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

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

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	GFL0118819	GFL0108066	GFL0108140
Sample Date	Client Info	29 Apr 2024	19 Feb 2024	25 Jan 2024
Machine Age	hrs	38044	24828	24681
Oil Age	hrs	0	0	0
Oil Changed	Client Info	Changed	Not Changd	Changed
Sample Status		ABNORMAL	ABNORMAL	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	23	6	7
Chromium	ppm ASTM D5185m >20	1	<1	<1
Nickel	ppm ASTM D5185m >4	0	0	<1
Titanium	ppm ASTM D5185m	<1	0	<1
Silver	ppm ASTM D5185m >3	0	<1	0
Aluminum	ppm ASTM D5185m >20	2	2	1
Lead	ppm ASTM D5185m >40	4	<1	<1
Copper	ppm ASTM D5185m >330	2	0	<1
Tin	ppm ASTM D5185m >15	<1	0	<1
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	0	0	2
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	61	54	71
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	930	876	1174
Calcium	ppm ASTM D5185m 1070	1077	977	1137
Phosphorus	ppm ASTM D5185m 1150	1073	967	1071
Zinc	ppm ASTM D5185m 1270	1245	1184	1485
Sulfur	ppm ASTM D5185m 2060	3028	2815	3533

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	▲ 33	▲ 31	9
Sodium	ppm ASTM D5185m	3	0	<1
Potassium	ppm ASTM D5185m >20	2	0	2

INFRA-RED

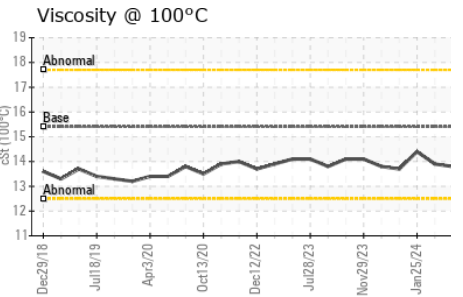
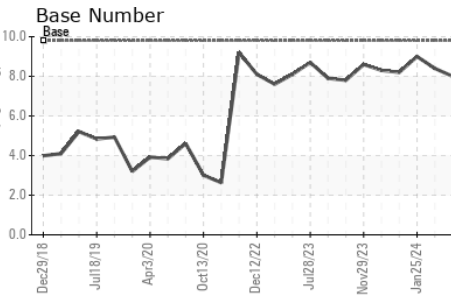
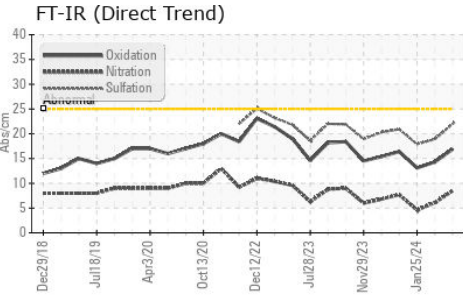
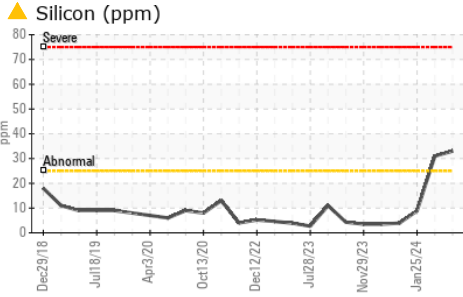
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.9	0.4	0.1
Nitration	Abs/cm *ASTM D7624 >20	8.5	6.1	4.6
Sulfation	Abs/.1mm *ASTM D7415 >30	22.0	18.9	17.9

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	16.9	14.3	13.1
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.0	8.4	9.0



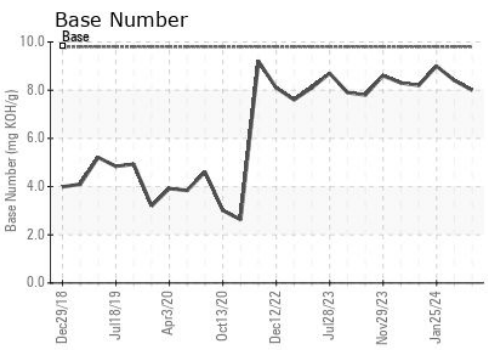
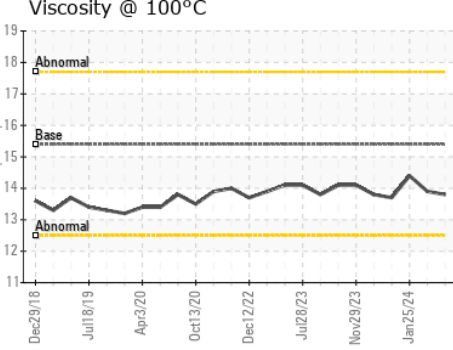
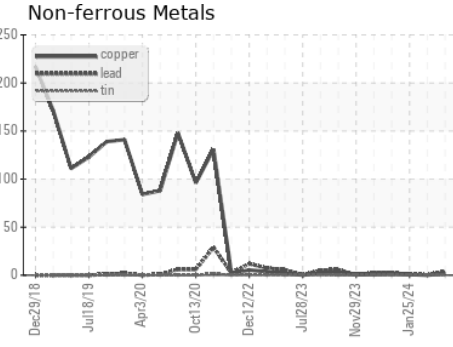
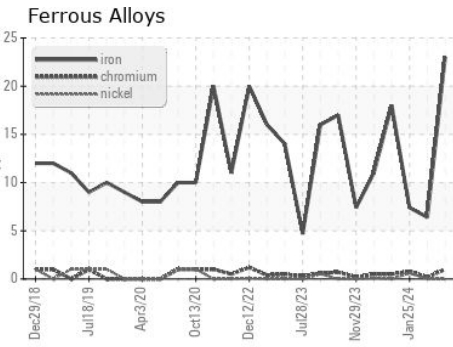
OIL ANALYSIS REPORT



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	13.9	14.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0118819
Lab Number : **06174862**
Unique Number : 11020915
Test Package : FLEET

Received : 09 May 2024
Tested : 10 May 2024
Diagnosed : 13 May 2024 - Sean Felton

GFL Environmental - 837 - Harrison TS
 28220 S State Route 291
 Harrisonville, MO
 US 64701
 Contact: SARA PATRICK
 spatrack@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)