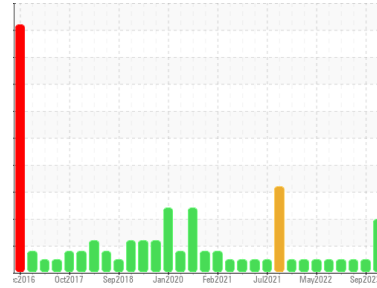




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area (MW6807)

Machine Id 3714

Component Diesel Engine

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

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

Cylinder, crank, or cam shaft wear is indicated.

Contamination

Sodium and/or potassium levels are high.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0068110	GFL0068139	GFL0046499
Sample Date	Client Info	12 Jan 2024	25 Sep 2023	13 Dec 2022
Machine Age	hrs	17792	16116	14929
Oil Age	hrs	600	600	600
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ABNORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<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 >75	▲ 119	9	13
Chromium	ppm ASTM D5185m >5	2	1	1
Nickel	ppm ASTM D5185m >4	1	<1	<1
Titanium	ppm ASTM D5185m >2	0	0	<1
Silver	ppm ASTM D5185m >2	0	<1	0
Aluminum	ppm ASTM D5185m >15	6	4	2
Lead	ppm ASTM D5185m >25	1	<1	2
Copper	ppm ASTM D5185m >100	41	5	<1
Tin	ppm ASTM D5185m >4	<1	0	<1
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	20	12	10
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	63	60	60
Manganese	ppm ASTM D5185m 0	2	<1	<1
Magnesium	ppm ASTM D5185m 1010	945	906	909
Calcium	ppm ASTM D5185m 1070	1087	1307	1182
Phosphorus	ppm ASTM D5185m 1150	978	1136	982
Zinc	ppm ASTM D5185m 1270	1203	1414	1235
Sulfur	ppm ASTM D5185m 2060	3084	3556	3304

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	16	4	4
Sodium	ppm ASTM D5185m	▲ 205	21	5
Potassium	ppm ASTM D5185m >20	13	12	<1
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

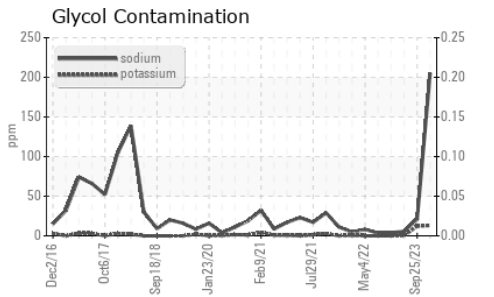
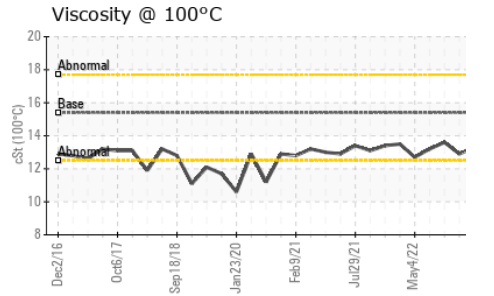
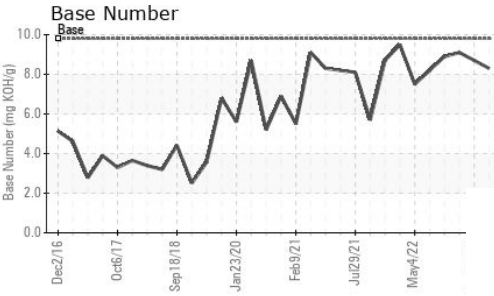
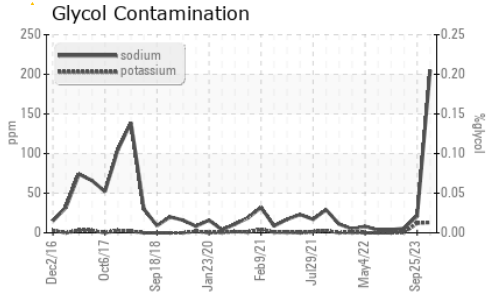
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >6	0.2	0.3	0.4
Nitration	Abs/cm *ASTM D7624 >20	7.8	7.3	8.8
Sulfation	Abs/.1mm *ASTM D7415 >30	18.5	18.4	20.6

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.5	14.2	16.0
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.3	8.7	9.1



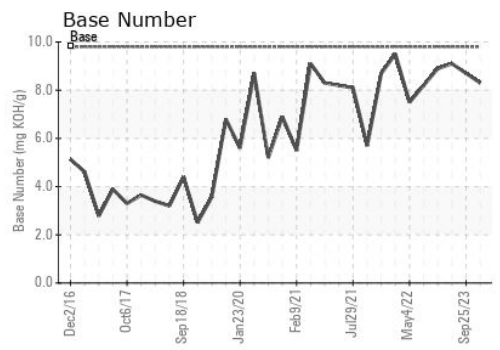
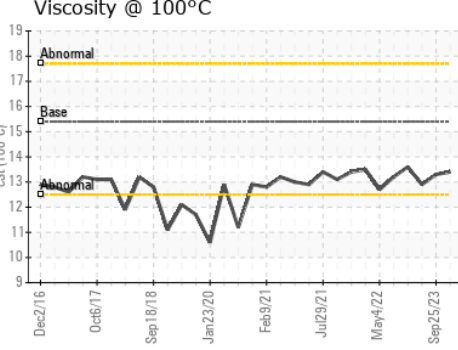
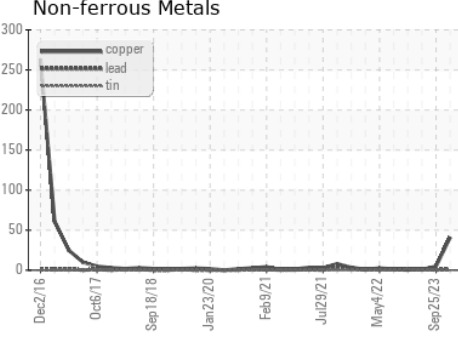
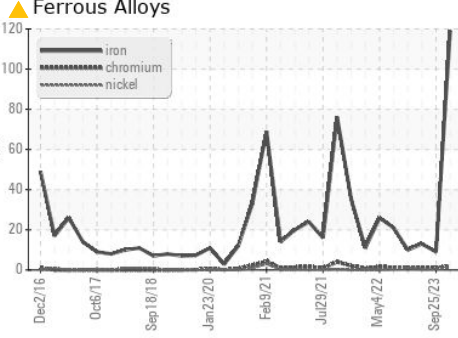
OIL ANALYSIS REPORT



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	13.4	13.3

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0068110 **Received** : 24 Jan 2024
Lab Number : 06069969 **Diagnosed** : 26 Jan 2024
Unique Number : 10846646 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 028 - Weldon
 2211 US Highway 301
 Halifax, NC
 US 27839
 Contact: TRAVIS PORCH
 tporch@gflenv.com
 T: (252)532-3344
 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)