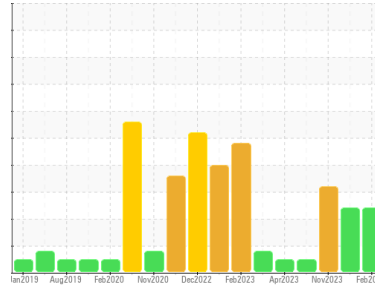




OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL



Machine Id
727044-361326
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

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	GFL0098680	GFL0098728	GFL0098763
Sample Date	Client Info	23 Feb 2024	08 Jan 2024	08 Nov 2023
Machine Age	hrs	1445	1308	1010
Oil Age	hrs	150	150	600
Oil Changed	Client Info	Not Changed	Not Changd	Changed
Sample Status		ABNORMAL	ATTENTION	ABNORMAL

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 >120	28	12	65
Chromium	ppm ASTM D5185m >20	1	<1	1
Nickel	ppm ASTM D5185m >5	<1	<1	1
Titanium	ppm ASTM D5185m >2	<1	<1	<1
Silver	ppm ASTM D5185m >2	0	0	<1
Aluminum	ppm ASTM D5185m >20	5	2	5
Lead	ppm ASTM D5185m >40	14	5	▲ 57
Copper	ppm ASTM D5185m >330	4	2	27
Tin	ppm ASTM D5185m >15	<1	<1	5
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	<1	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	1	<1	0
Barium	ppm ASTM D5185m 0	0	0	<1
Molybdenum	ppm ASTM D5185m 60	90	69	84
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	906	853	883
Calcium	ppm ASTM D5185m 1070	969	921	1013
Phosphorus	ppm ASTM D5185m 1150	984	962	951
Zinc	ppm ASTM D5185m 1270	1213	1103	1170
Sulfur	ppm ASTM D5185m 2060	3300	3003	2844

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	5	3	7
Sodium	ppm ASTM D5185m	▲ 162	● 94	▲ 340
Potassium	ppm ASTM D5185m >20	▲ 126	● 74	▲ 30
Glycol	% *ASTM D2982	NEG	NEG	NEG

INFRA-RED

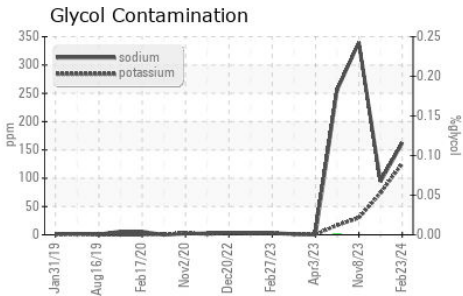
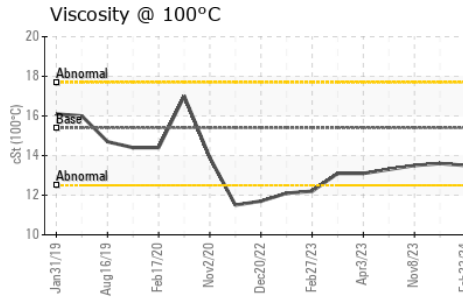
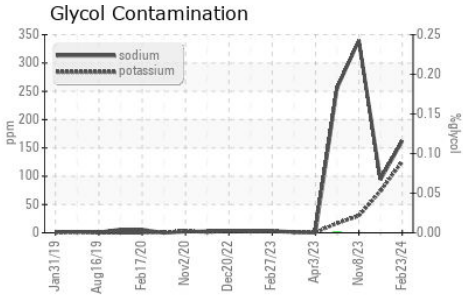
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	1.7	0.9	2.8
Nitration	Abs/cm *ASTM D7624 >20	7.2	5.5	9.8
Sulfation	Abs/.1mm *ASTM D7415 >30	19.3	18.6	24.3

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	12.9	12.6	13.9
Base Number (BN)	mg KOH/g ASTM D2896 9.8	10.1	9.5	7.7



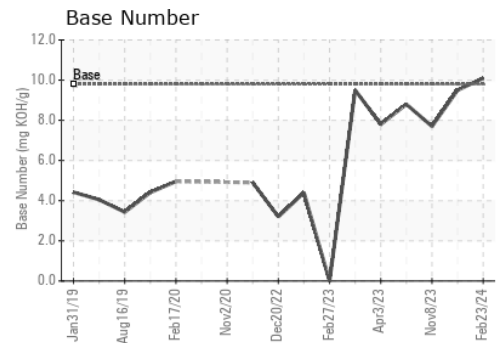
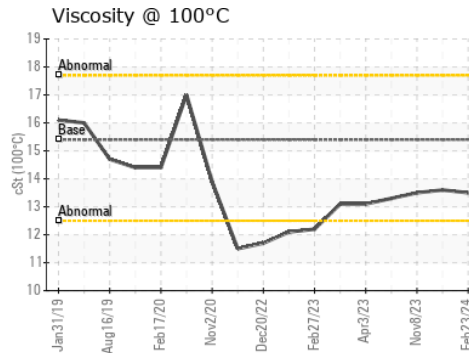
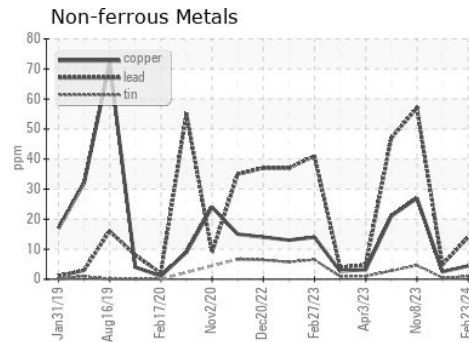
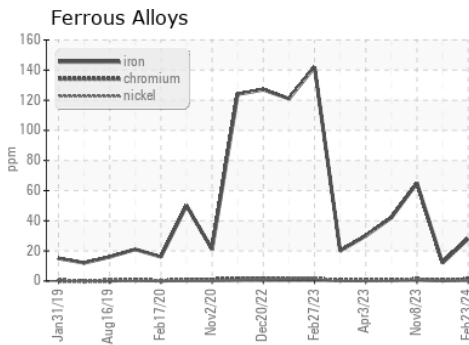
OIL ANALYSIS REPORT



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	13.5	13.6

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0098680 Received : 29 Feb 2024
 Lab Number : 06104066 Tested : 04 Mar 2024
 Unique Number : 10902296 Diagnosed : 04 Mar 2024 - Jonathan Hester
 Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 829 - Wilco Hauling
 5054 Highway HH
 Hartville, MO
 US 65667
 Contact: James Jones
 james.jones@gflenv.com
 T: (417)349-5006
 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)