



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
9975
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0102600	GFL0101715	GFL0090611
Sample Date		Client Info		22 Feb 2024	21 Nov 2023	15 Aug 2023
Machine Age	kms	Client Info		0	541584	525817
Oil Age	kms	Client Info		0	0	0
Filter Age	kms	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	N/A
Filter Changed		Client Info		N/A	Changed	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Copper ppm levels are abnormal. Bearing wear is indicated.

Iron	ppm	ASTM D5185(m)	>110	12	18	5
Chromium	ppm	ASTM D5185(m)	>4	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	2	3	2
Lead	ppm	ASTM D5185(m)	>45	6	<1	1
Copper	ppm	ASTM D5185(m)	>85	▲ 182	2	<1
Tin	ppm	ASTM D5185(m)	>4	<1	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

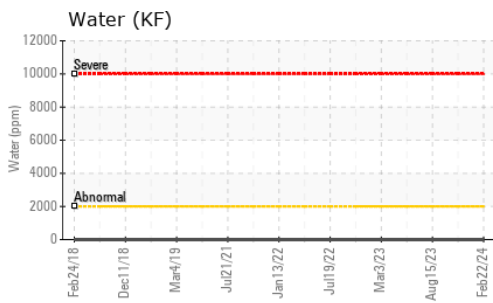
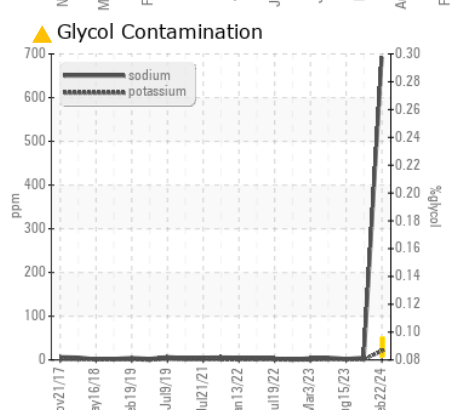
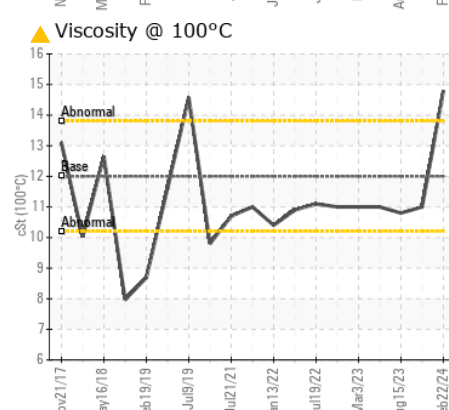
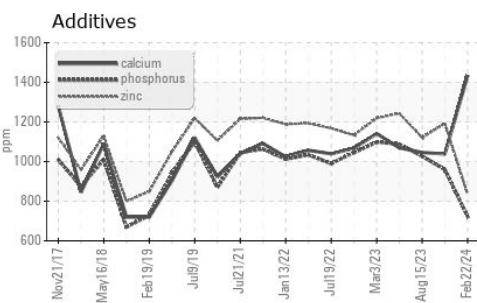
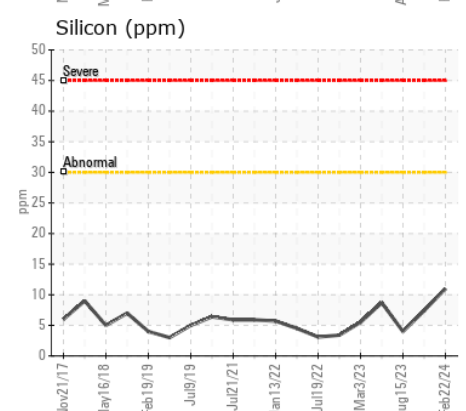
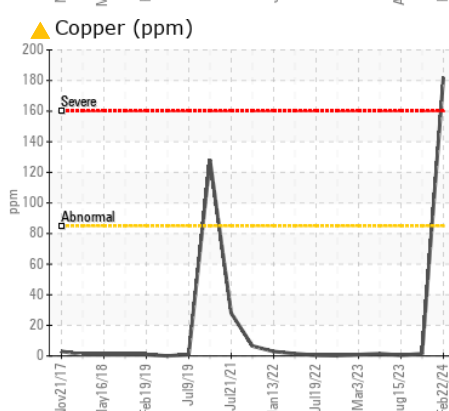
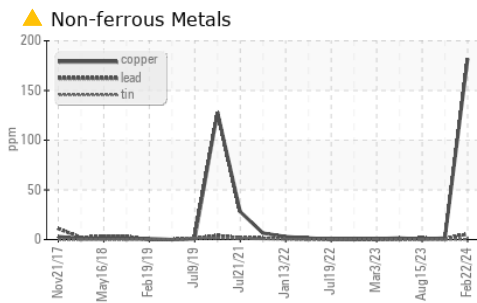
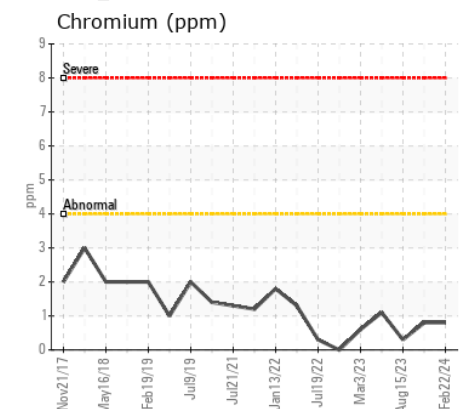
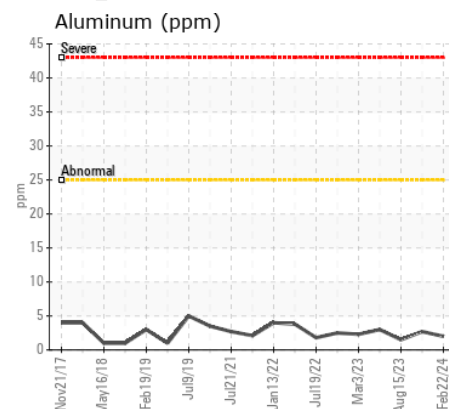
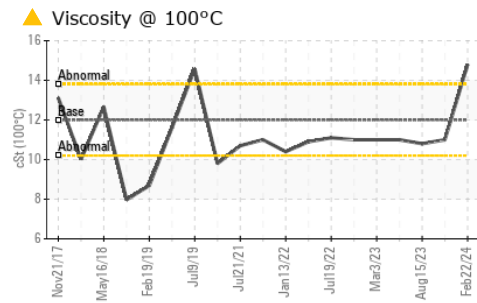
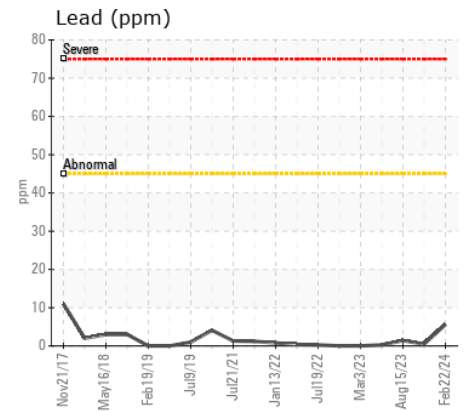
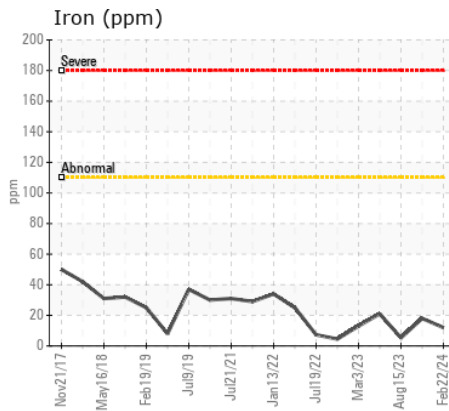
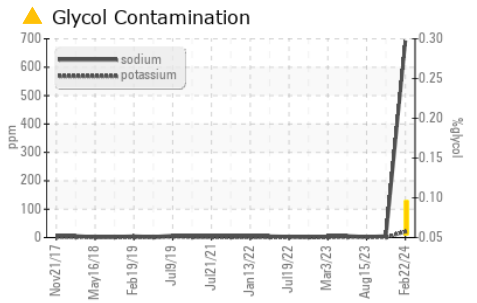
Test for glycol is positive. There is a moderate concentration of glycol present in the oil. There is a moderate concentration of water present in the oil.

Silicon	ppm	ASTM D5185(m)	>30	11	7	4
Potassium	ppm	ASTM D5185(m)	>20	▲ 21	1	<1
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water	%	ASTM D6304*	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		▲ 0.096	NEG	NEG
Soot %	%	ASTM D7844*	>3	0	0.7	0.1
Nitration	Abs/cm	ASTM D7624*	>20	10.6	9.5	5.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.9	21.4	19.3
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	▲ .2%	NEG	NEG

FLUID CONDITION

Viscosity of sample indicates oil is within SAE 40 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		▲ 692	6	3
Boron	ppm	ASTM D5185(m)	2	8	2	18
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	50	72	59	60
Manganese	ppm	ASTM D5185(m)	0	<1	0	<1
Magnesium	ppm	ASTM D5185(m)	950	517	952	919
Calcium	ppm	ASTM D5185(m)	1050	1434	1038	1046
Phosphorus	ppm	ASTM D5185(m)	995	723	960	1027
Zinc	ppm	ASTM D5185(m)	1180	835	1193	1121
Sulfur	ppm	ASTM D5185(m)	2600	1980	2424	2639
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.9	17.8	13.6
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	▲ 14.8	11.0	10.8



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0102600
Lab Number : 02617608
Unique Number : 5734718
Test Package : MOB 1 (Additional Tests: Glycol, KF, Visual)

GFL Environmental - 554 - Edmonton SW
 8409 - 15th Street NW
 Edmonton, AB
 CA T6P 0B8
 Contact: Tim Greig
 tgreig@gflenv.com
 T: (780)231-0521
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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.