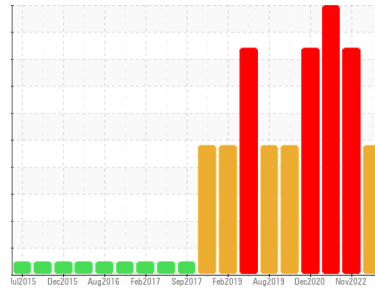




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area
GFL216
Machine Id
MACK 4597
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (36 LTR)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

method	limit/base	current	history1	history2	
Sample Number	Client Info	GFL0096333	GFL0061855	GFL0050018	
Sample Date	Client Info	24 Oct 2023	14 Nov 2022	20 Jul 2022	
Machine Age	kms	Client Info	811587	775033	32795
Oil Age	kms	Client Info	0	0	794
Oil Changed	Client Info	Changed	Changed	Changed	
Sample Status		ABNORMAL	SEVERE	SEVERE	

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

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >100	30	22	88
Chromium	ppm	ASTM D5185(m) >6	<1	<1	2
Nickel	ppm	ASTM D5185(m) >4	<1	<1	2
Titanium	ppm	ASTM D5185(m) >2	0	<1	<1
Silver	ppm	ASTM D5185(m) >2	<1	0	0
Aluminum	ppm	ASTM D5185(m) >30	18	2	6
Lead	ppm	ASTM D5185(m) >10	13	12	33
Copper	ppm	ASTM D5185(m) >150	50	78	224
Tin	ppm	ASTM D5185(m) >4	<1	<1	3
Antimony	ppm	ASTM D5185(m)	0	<1	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	<1	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m) 0	16	8	8
Barium	ppm	ASTM D5185(m) 0	<1	0	0
Molybdenum	ppm	ASTM D5185(m) 60	153	52	47
Manganese	ppm	ASTM D5185(m) 0	0	<1	2
Magnesium	ppm	ASTM D5185(m) 1010	185	816	289
Calcium	ppm	ASTM D5185(m) 1070	1789	1025	871
Phosphorus	ppm	ASTM D5185(m) 1150	905	1023	586
Zinc	ppm	ASTM D5185(m) 1270	1052	1058	673
Sulfur	ppm	ASTM D5185(m) 2060	2679	2529	1843
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

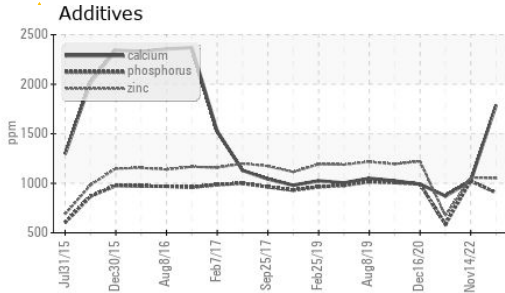
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >20	7	5	16
Sodium	ppm	ASTM D5185(m)	1012	559	2253
Potassium	ppm	ASTM D5185(m) >20	33	14	51
Glycol	%	ASTM D7922*	0.049	0.344	0.088

INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	2.4	0.4	1.4
Nitration	Abs/cm	ASTM D7624* >20	11.8	7.7	12.3
Sulfation	Abs.1mm	ASTM D7415* >30	24.9	20.1	22.9



OIL ANALYSIS REPORT



FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs./1mm ASTM D7414*	>25	17.1	13.4	15.3

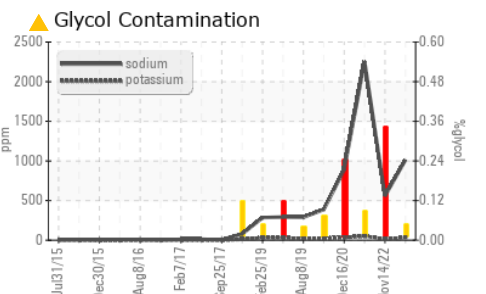
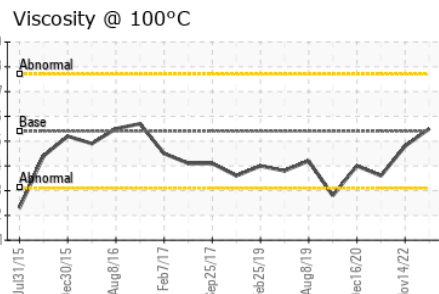
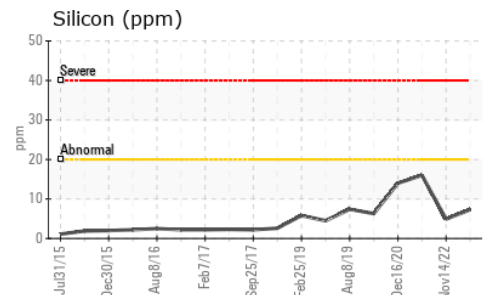
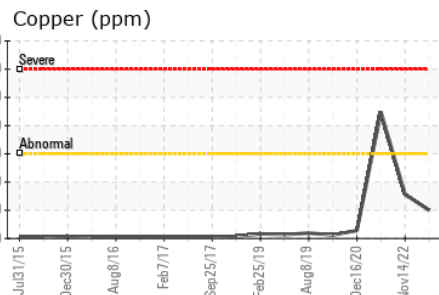
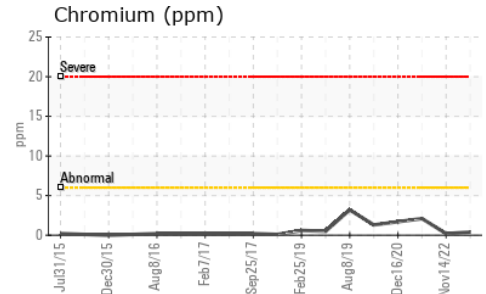
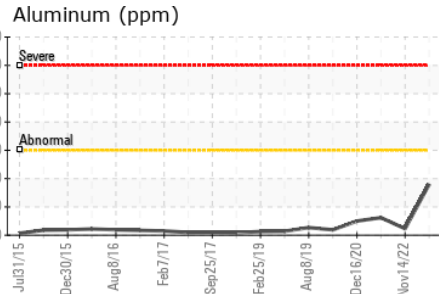
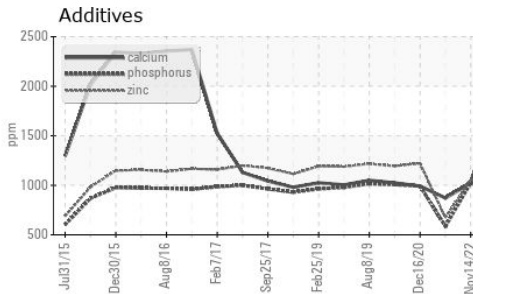
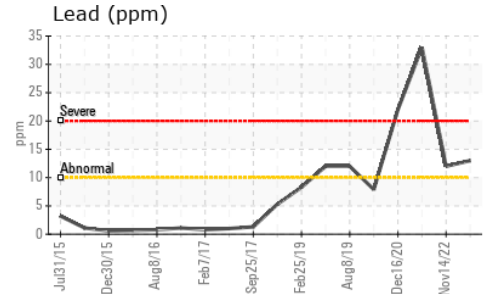
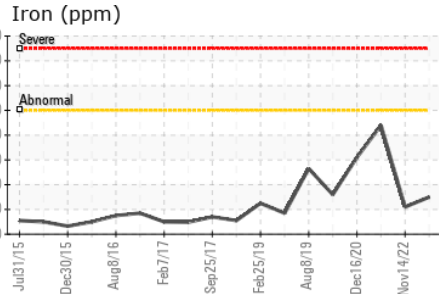
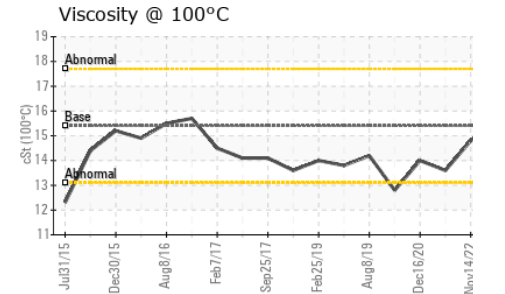
VISUAL

method	limit/base	current	history1	history2	
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES

method	limit/base	current	history1	history2	
Visc @ 100°C	cSt ASTM D7279(m)	15.4	15.5	14.8	13.6

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0096333
Lab Number : 02602772
Unique Number : 5695857
Test Package : MOB 1

GFL Environmental - 527
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 Timmins, ON
 CA P4N 8S9
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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.