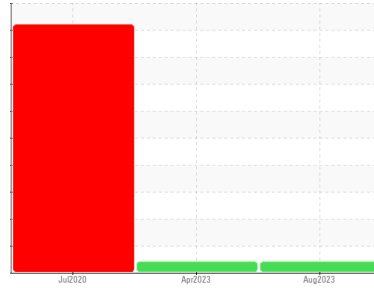




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id
4702
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as PETRO CANADA DURON SHP 15W40, however, a fluid match indicates that this fluid is SAE 30 Diesel Engine Oil. Please confirm the oil type and grade on your next sample.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

Fluid Condition

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0035515	GFL0035513	GFL0005664
Sample Date	Client Info	01 Aug 2023	25 Apr 2023	20 Jul 2020
Machine Age	hrs	0	13038	0
Oil Age	hrs	600	600	0
Oil Changed	Client Info	Changed	Changed	N/A
Sample Status		ABNORMAL	ABNORMAL	SEVERE

CONTAMINATION

method	limit/base	current	history1	history2
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >120	17	13	▲ 200
Chromium	ppm ASTM D5185(m) >20	<1	0	2
Nickel	ppm ASTM D5185(m) >5	0	<1	2
Titanium	ppm ASTM D5185(m) >2	0	<1	<1
Silver	ppm ASTM D5185(m) >2	0	0	0
Aluminum	ppm ASTM D5185(m) >20	2	3	◆ 224
Lead	ppm ASTM D5185(m) >40	1	<1	3
Copper	ppm ASTM D5185(m) >330	1	2	8
Tin	ppm ASTM D5185(m) >15	0	<1	<1
Antimony	ppm ASTM D5185(m)	0	<1	<1
Vanadium	ppm ASTM D5185(m)	0	0	0
Beryllium	ppm ASTM D5185(m)	0	0	0
Cadmium	ppm ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 0	21	31	2
Barium	ppm ASTM D5185(m) 0	0	0	0
Molybdenum	ppm ASTM D5185(m) 60	86	85	59
Manganese	ppm ASTM D5185(m) 0	<1	<1	3
Magnesium	ppm ASTM D5185(m) 1010	31	36	962
Calcium	ppm ASTM D5185(m) 1070	2122	2125	1122
Phosphorus	ppm ASTM D5185(m) 1150	1038	1033	1023
Zinc	ppm ASTM D5185(m) 1270	1184	1111	1266
Sulfur	ppm ASTM D5185(m) 2060	2940	3040	2469
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >25	6	5	▲ 34
Sodium	ppm ASTM D5185(m)	9	7	14
Potassium	ppm ASTM D5185(m) >20	2	1	2
Fuel	% ASTM D7593* >3.0	0.6	1.4	0.2

INFRA-RED

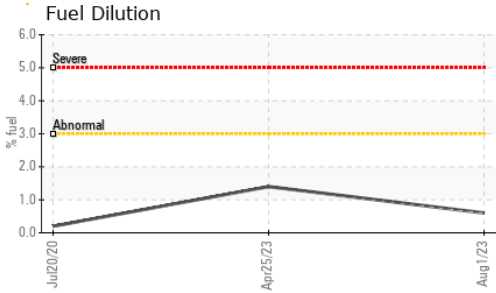
method	limit/base	current	history1	history2
Soot %	% ASTM D7844* >4	0.7	0.4	0.6
Nitration	Abs/cm ASTM D7624* >20	9.8	10.1	10.6
Sulfation	Abs/.1mm ASTM D7415* >30	22.2	21.4	26.4

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm ASTM D7414* >25	15.7	15.9	17.4



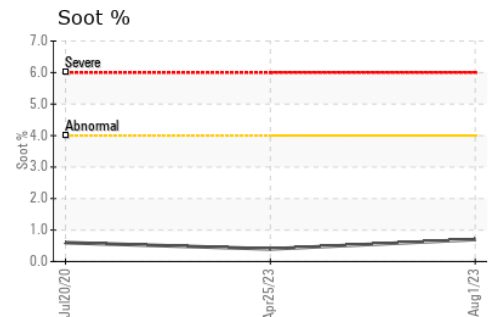
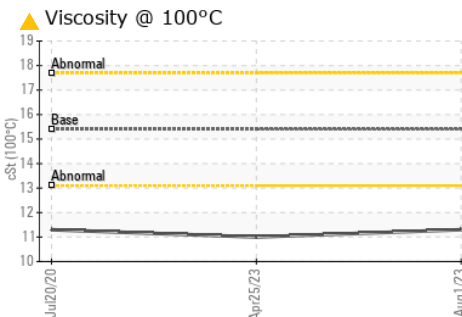
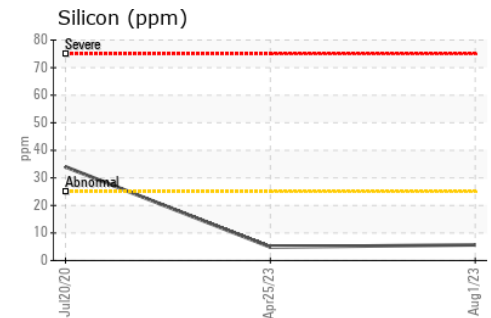
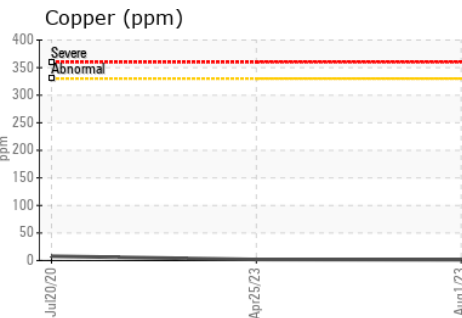
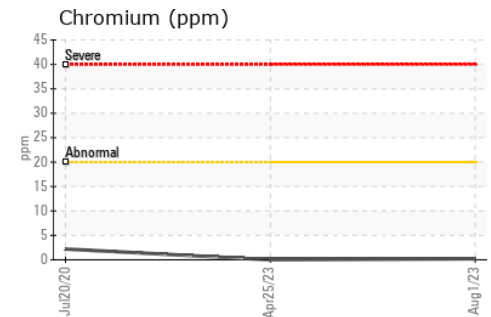
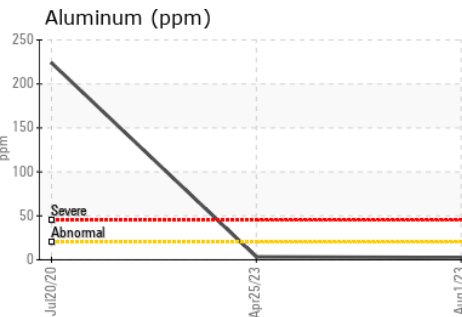
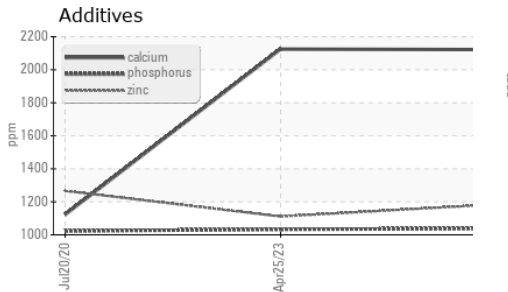
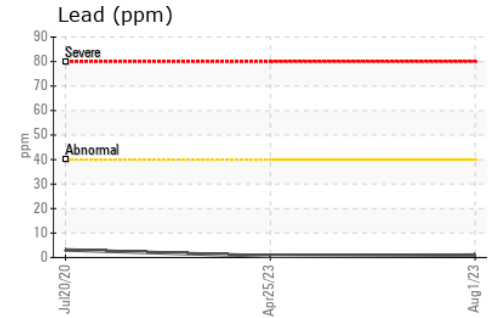
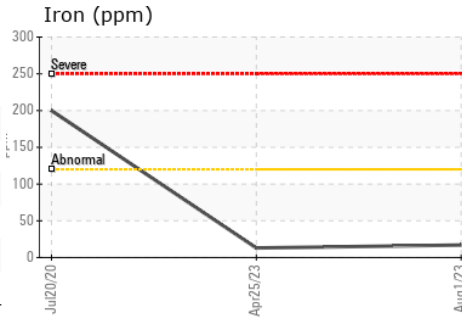
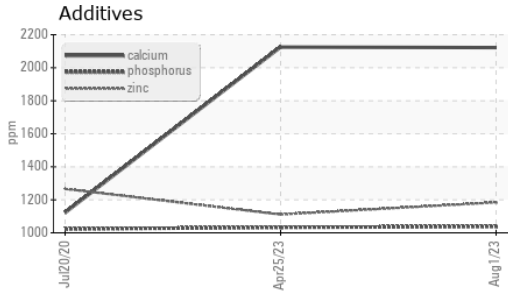
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
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 D7279(m)	15.4	▲ 11.3	▲ 11.0

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 213 - Kitchener**
Sample No. : GFL0035515 **Received** : 03 Aug 2023 **16 Centennial Road, Kitchener Yard**
Lab Number : 02573963 **Diagnosed** : 04 Aug 2023 **Kitchener, ON**
Unique Number : 5619014 **Diagnostician** : Kevin Marson **CA N2B 3G1**
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel) **Contact: Keith Zehr**
kzehr@gflenv.com

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.

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