



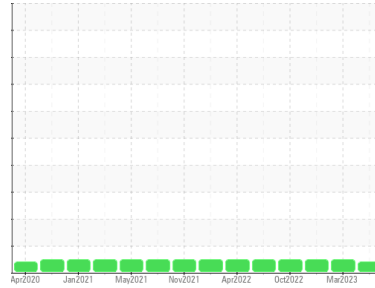
OIL ANALYSIS REPORT

Sample Rating Trend

VISCOSITY



Machine Id
928001
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	history 1	history 2
Sample Number	Client Info	GFL0078506	GFL0078510	GFL0063904
Sample Date	Client Info	07 Jul 2023	31 Mar 2023	30 Dec 2022
Machine Age	kms Client Info	199367	8562	8049
Oil Age	kms Client Info	0	0	522
Oil Changed	Client Info	N/A	N/A	Changed
Sample Status		ABNORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history 1	history 2
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history 1	history 2	
Iron	ppm ASTM D5185(m)	>120	14	8	7
Chromium	ppm ASTM D5185(m)	>20	<1	0	0
Nickel	ppm ASTM D5185(m)	>5	<1	<1	<1
Titanium	ppm ASTM D5185(m)	>2	<1	<1	<1
Silver	ppm ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm ASTM D5185(m)	>20	2	2	1
Lead	ppm ASTM D5185(m)	>40	<1	<1	<1
Copper	ppm ASTM D5185(m)	>330	2	9	<1
Tin	ppm ASTM D5185(m)	>15	<1	<1	<1
Antimony	ppm ASTM D5185(m)		0	0	<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	history 1	history 2	
Boron	ppm ASTM D5185(m)	0	28	4	2
Barium	ppm ASTM D5185(m)	0	0	0	0
Molybdenum	ppm ASTM D5185(m)	60	43	61	58
Manganese	ppm ASTM D5185(m)	0	<1	<1	<1
Magnesium	ppm ASTM D5185(m)	1010	543	967	957
Calcium	ppm ASTM D5185(m)	1070	1664	1131	1132
Phosphorus	ppm ASTM D5185(m)	1150	788	1073	1018
Zinc	ppm ASTM D5185(m)	1270	930	1193	1194
Sulfur	ppm ASTM D5185(m)	2060	2001	2510	2434
Lithium	ppm ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

method	limit/base	current	history 1	history 2	
Silicon	ppm ASTM D5185(m)	>25	6	3	3
Sodium	ppm ASTM D5185(m)		4	4	3
Potassium	ppm ASTM D5185(m)	>20	<1	<1	0
Fuel	% ASTM D7593*	>3.0	0.8	<1.0	<1.0

INFRA-RED

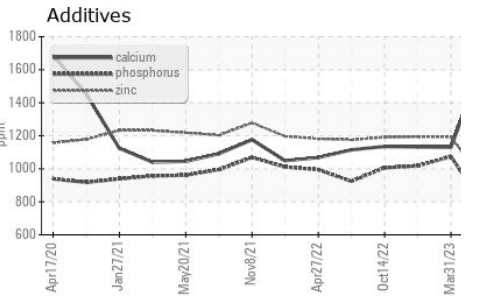
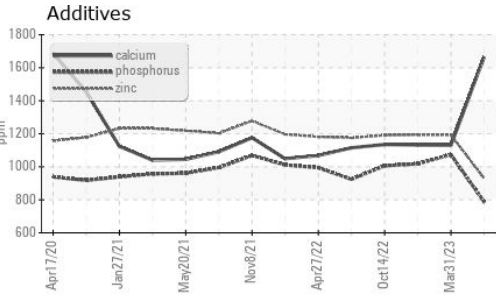
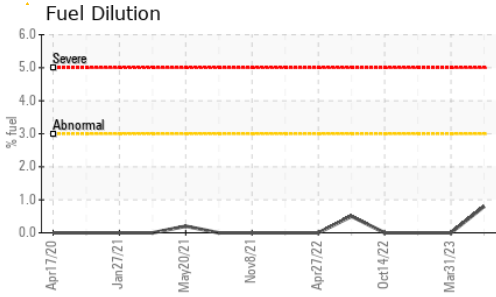
method	limit/base	current	history 1	history 2	
Soot %	% ASTM D7844*	>4	0.5	0.3	0.2
Nitration	Abs/cm ASTM D7624*	>20	9.3	7.9	7.3
Sulfation	Abs/.1mm ASTM D7415*	>30	23.0	19.2	19.6

FLUID DEGRADATION

method	limit/base	current	history 1	history 2	
Oxidation	Abs/.1mm ASTM D7414*	>25	21.1	14.8	13.8



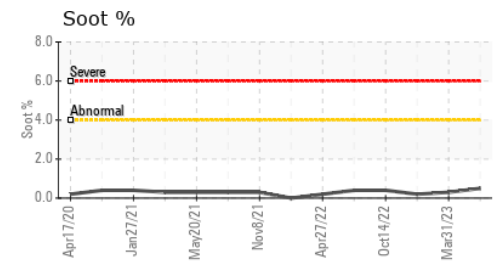
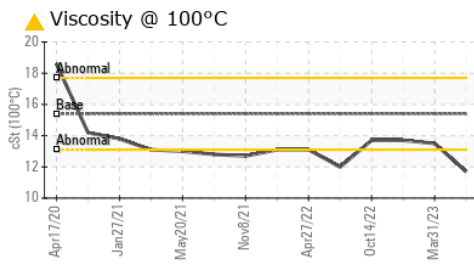
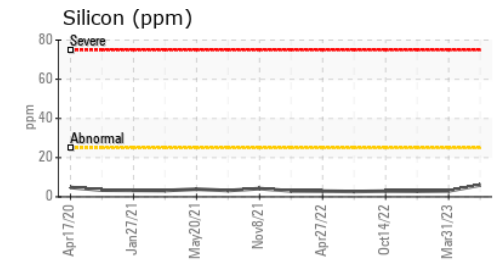
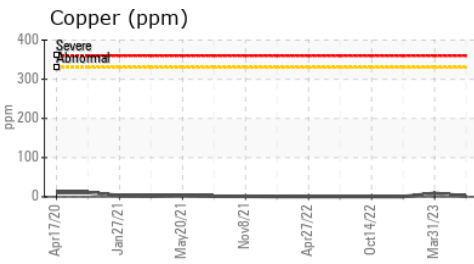
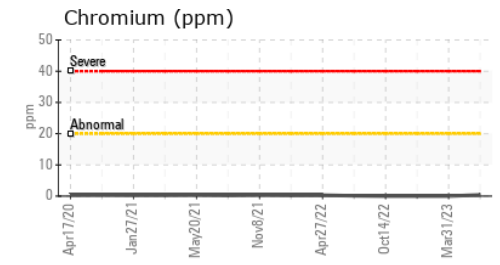
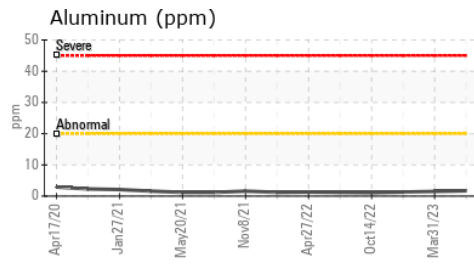
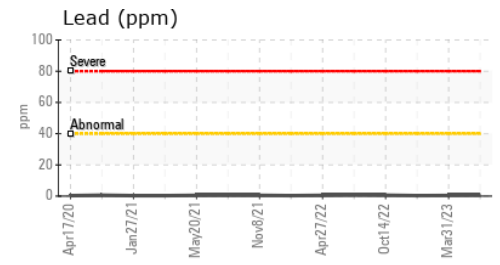
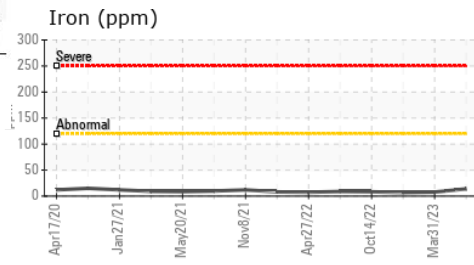
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
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
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4 ▲ 11.7	13.5	13.7

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 246 - Windsor**
Sample No. : GFL0078506 **Received** : 11 Jul 2023
Lab Number : 02569036 **Diagnosed** : 12 Jul 2023
Unique Number : 5606082 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, Visual)

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.

Contact: Dave Varga
 dvarga@gflenv.com
 T: (519)944-8009
 F: