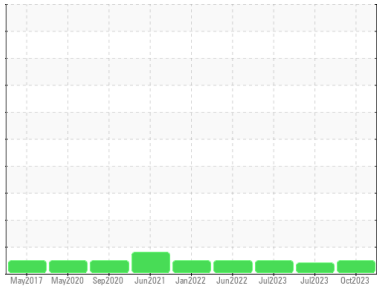
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
4707
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (40 LTR)

DIAGNOSIS

Recommendation
Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0094393**	GFL0086793	GFL0086761
Sample Date		Client Info		**30 Oct 2023**	25 Jul 2023	06 Jul 2023
Machine Age	hrs	Client Info		**260171**	260171	260171
Oil Age	hrs	Client Info		**260171**	260171	14986
Oil Changed		Client Info		**N/A**	N/A	Changed
Sample Status				**NORMAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	0.8	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>120	**8**	2	7
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	<1
Nickel	ppm	ASTM D5185(m)	>15	**0**	0	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	<1	<1
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**4**	2	4
Lead	ppm	ASTM D5185(m)	>40	**2**	<1	1
Copper	ppm	ASTM D5185(m)	>330	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>15	**<1**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	0	0
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	**25**	53	15
Barium	ppm	ASTM D5185(m)	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**99**	76	43
Manganese	ppm	ASTM D5185(m)	0	**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	**58**	70	131
Calcium	ppm	ASTM D5185(m)	1070	**2523**	2061	2149
Phosphorus	ppm	ASTM D5185(m)	1150	**1120**	1022	1005
Zinc	ppm	ASTM D5185(m)	1270	**1369**	1113	1123
Sulfur	ppm	ASTM D5185(m)	2060	**3412**	3068	2940
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**4**	3	4
Sodium	ppm	ASTM D5185(m)		**5**	3	5
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0.3**	0	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**9.4**	7.9	8.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.8**	18.1	20.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**17.4**	13.0	14.5

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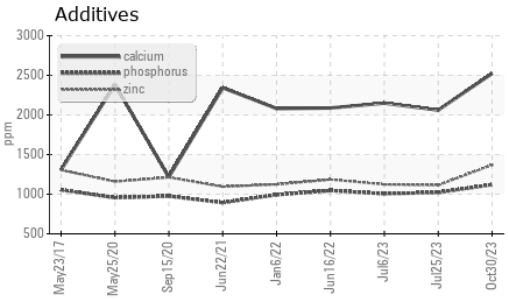
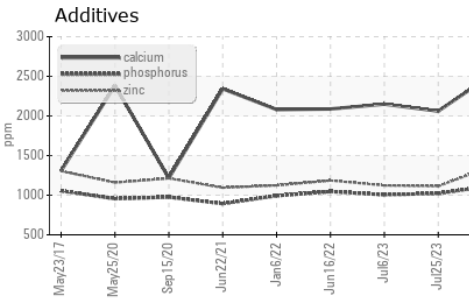
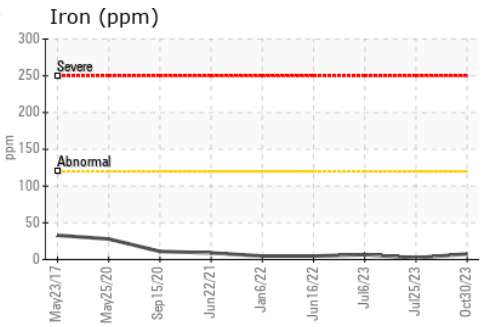


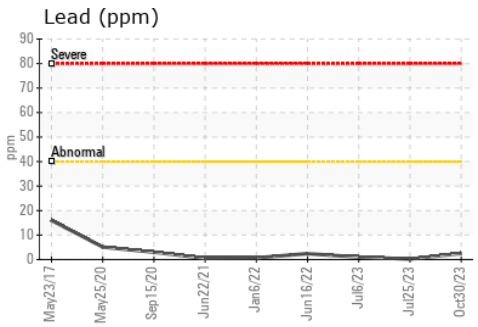


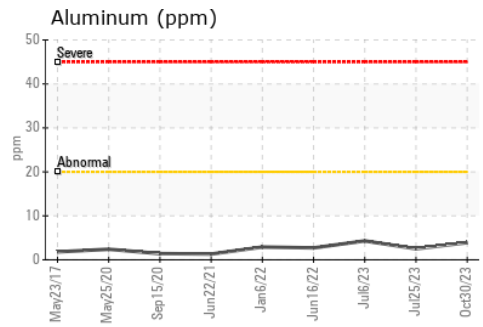
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

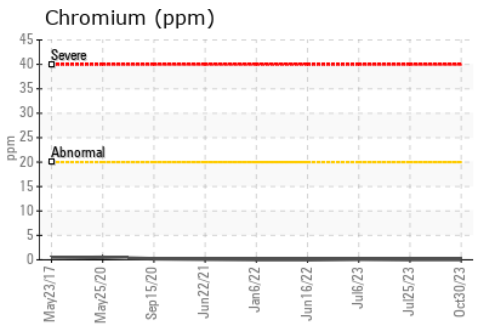
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**13.8**	▲ 11.8	14.2

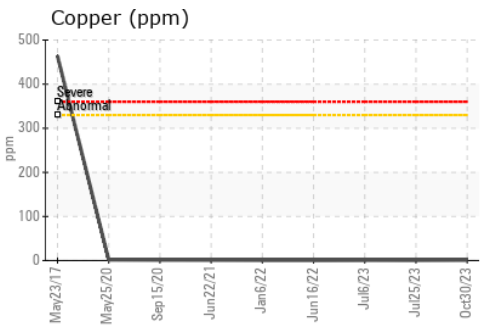
GRAPHS

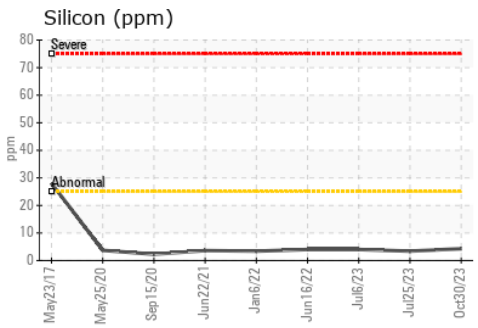


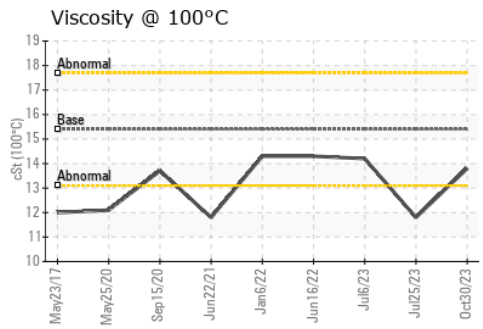


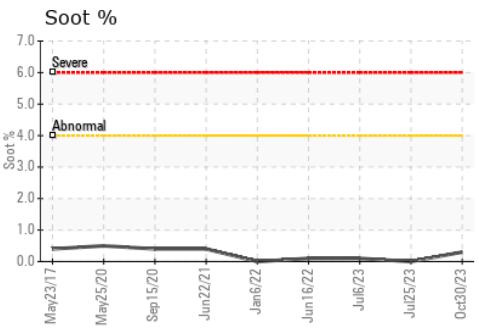












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0094393
Lab Number : 02592883
Unique Number : 5669962
Test Package : MOB 1

Received : 31 Oct 2023
Diagnosed : 31 Oct 2023
Diagnostician : Wes Davis

GFL Environmental - 222 - Sandhill
SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE ROAD
ORANGEVILLE, ON
CA L9W 3X5
Contact: GLENN COOK
gcook@gflenv.com
T: (519)940-4167
F:

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.