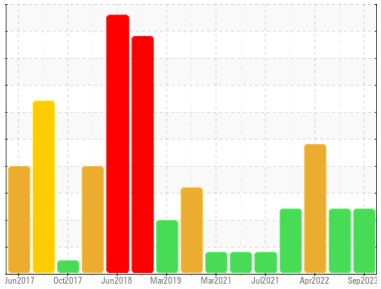
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
4785
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear
Lead ppm levels are abnormal. An increase in the copper level is noted. Bearing wear is indicated.

Contamination
There is a moderate concentration of dirt present in the oil. High amount of ingressed dirt has caused abrasive wear to the component.

Fluid Condition
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0093897**	GFL0053102	GFL0041448
Sample Date		Client Info		**29 Sep 2023**	16 May 2022	10 Apr 2022
Machine Age	hrs	Client Info		**24551**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	Changed	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	0.0	▲ 0.061

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**48**	65	61
Chromium	ppm	ASTM D5185(m)	>20	**3**	2	3
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**<1**	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	**3**	2	3
Lead	ppm	ASTM D5185(m)	>40	▲ **45**	1	1
Copper	ppm	ASTM D5185(m)	>330	**238**	18	23
Tin	ppm	ASTM D5185(m)	>15	**2**	<1	<1
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**	0	0

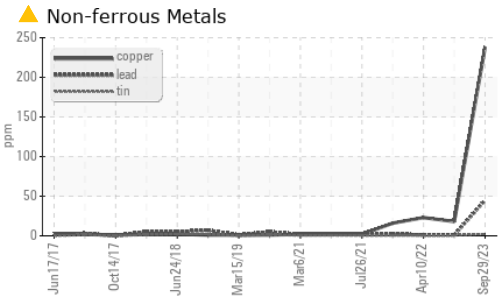
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	2	**15**	2	3
Barium	ppm	ASTM D5185(m)	0	**1**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**63**	73	76
Manganese	ppm	ASTM D5185(m)	0	**5**	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	**594**	951	974
Calcium	ppm	ASTM D5185(m)	1050	**1395**	994	1014
Phosphorus	ppm	ASTM D5185(m)	995	**792**	918	986
Zinc	ppm	ASTM D5185(m)	1180	**924**	1138	1180
Sulfur	ppm	ASTM D5185(m)	2600	**1928**	2234	2306
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

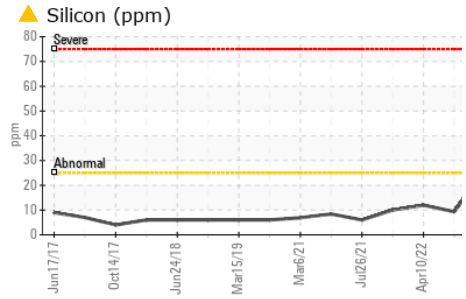
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	▲ **26**	9	12
Sodium	ppm	ASTM D5185(m)		**28**	▲ 309	▲ 308
Potassium	ppm	ASTM D5185(m)	>20	**<1**	▲ 108	▲ 137

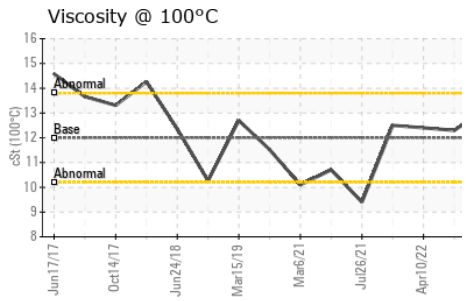
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.7**	1.5	1.4
Nitration	Abs/cm	ASTM D7624*	>20	**9.6**	13.2	13.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.2**	26.5	25.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**18.4**	20.8	20.0

OIL ANALYSIS REPORT



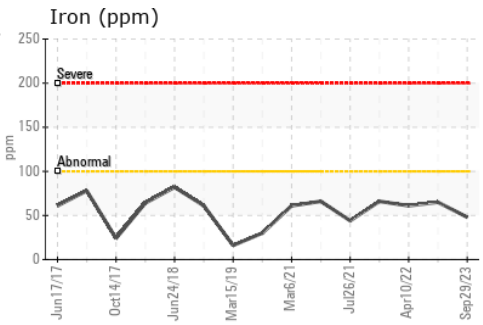


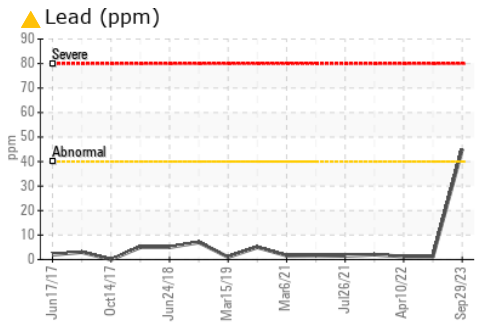


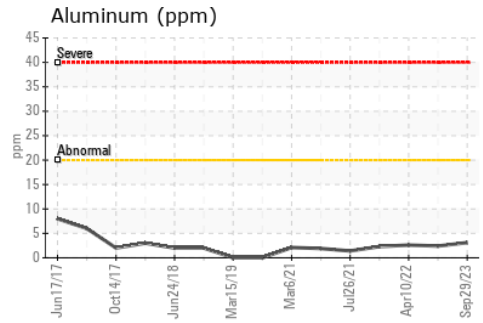
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

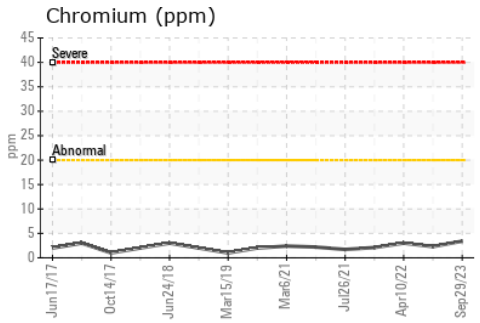
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**13.1**	12.3	12.4

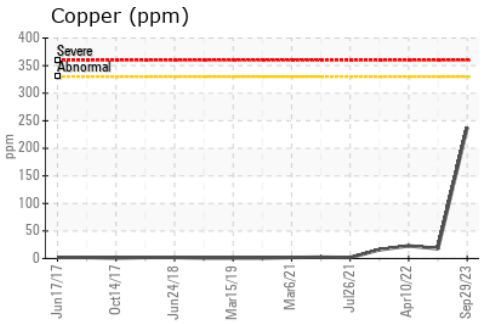
GRAPHS

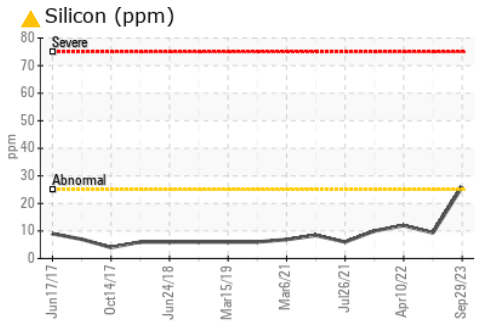


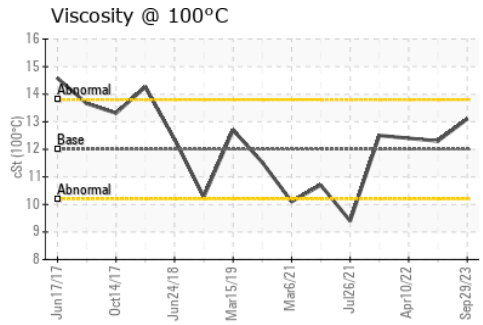


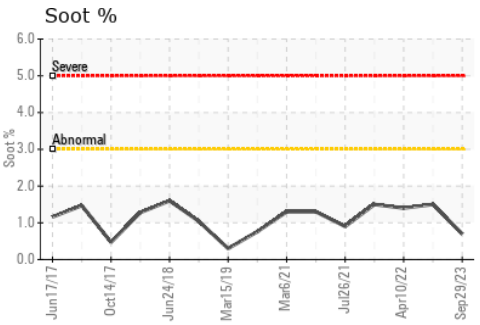












ISO 17025:2017 Accredited Laboratory

Laboratory	: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **GFL Environmental - 554 - Edmonton SW**		
Sample No.	: GFL0093897	**Received**	: 06 Oct 2023
Lab Number	: 02587531	**Diagnosed**	: 06 Oct 2023
Unique Number	: 5656597	**Diagnostician**	: Kevin Marson
Test Package	: MOB 1		

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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