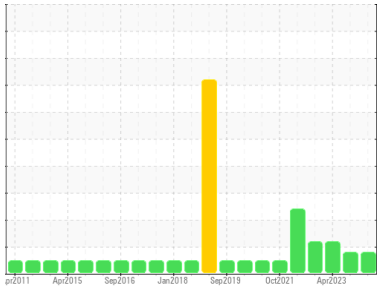
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
4409
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (40 LTR)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0086781**	GFL0094449	GFL0063936
Sample Date		Client Info		**08 Feb 2024**	29 Sep 2023	12 Apr 2023
Machine Age	hrs	Client Info		**30171**	0	0
Oil Age	hrs	Client Info		**30171**	0	0
Oil Changed		Client Info		**Changed**	N/A	Changed
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

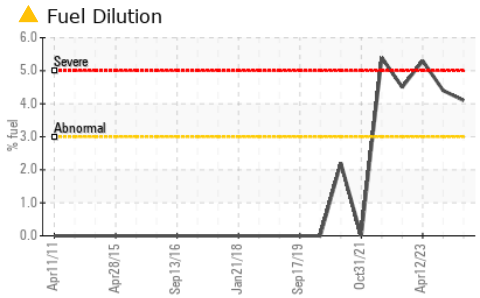
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>120	**13**	26	18
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	**<1**	0	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	**1**	<1	1
Lead	ppm	ASTM D5185(m)	>40	**<1**	3	1
Copper	ppm	ASTM D5185(m)	>330	**2**	3	3
Tin	ppm	ASTM D5185(m)	>15	**0**	0	<1
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

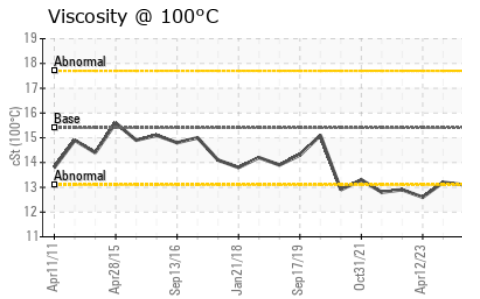
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**8**	6	2
Barium	ppm	ASTM D5185(m)	0	**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	**56**	56	57
Manganese	ppm	ASTM D5185(m)	0	**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	**887**	889	935
Calcium	ppm	ASTM D5185(m)	1070	**1031**	1007	1072
Phosphorus	ppm	ASTM D5185(m)	1150	**936**	892	1035
Zinc	ppm	ASTM D5185(m)	1270	**1087**	1087	1145
Sulfur	ppm	ASTM D5185(m)	2060	**2579**	2298	2576
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**2**	2	2
Sodium	ppm	ASTM D5185(m)		**2**	2	1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	0	0
Fuel	%	ASTM D7593*	>3.0	▲ **4.1**	▲ 4.4	▲ 5.3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**1.7**	2.8	1.6
Nitration	Abs/cm	ASTM D7624*	>20	**7.2**	9.0	8.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	**20.7**	23.3	23.6

OIL ANALYSIS REPORT



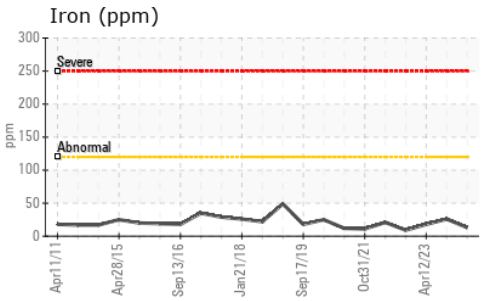


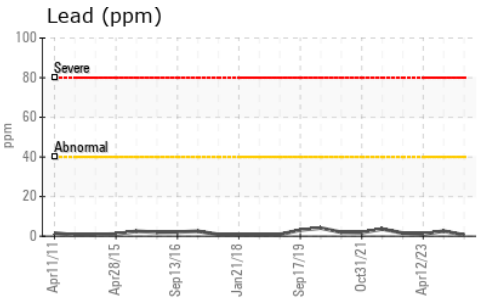
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**13.0**	13.7	14.5

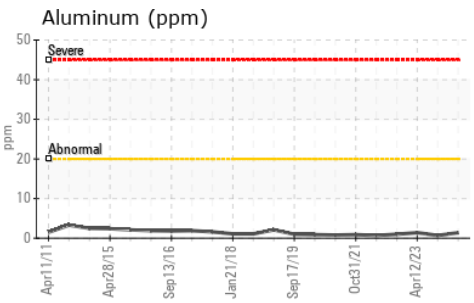
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

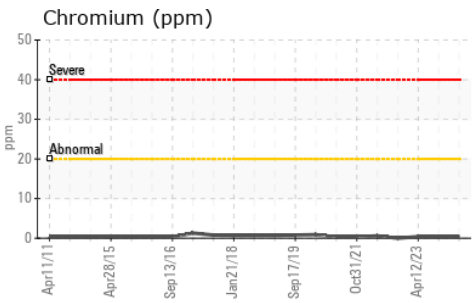
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**13.1**	13.2	▲ 12.6

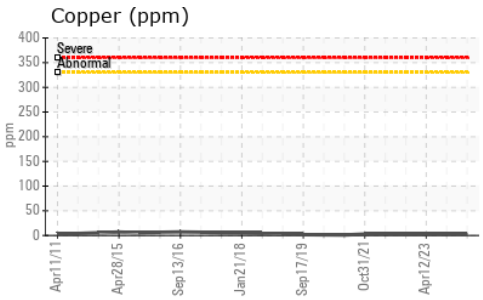
GRAPHS

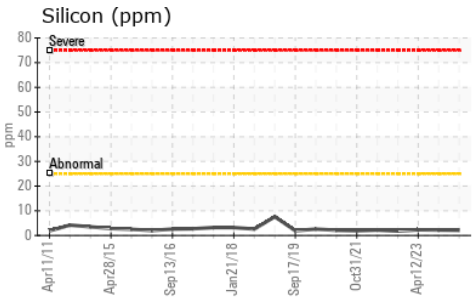


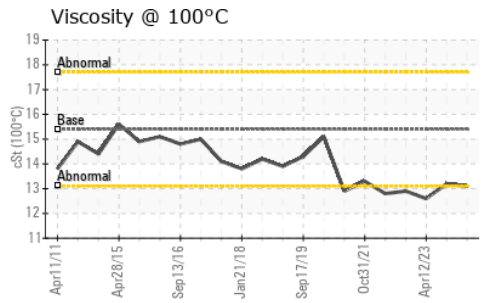


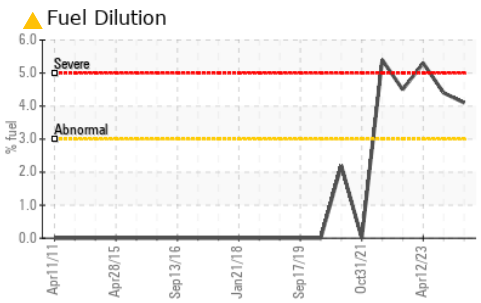












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0086781 **Received** : 09 Feb 2024
Lab Number : 02614366 **Tested** : 12 Feb 2024
Unique Number : 5723461 **Diagnosed** : 12 Feb 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: PercentFuel)

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.

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:

Report Id: GFL222 [WCAMIS] 02614366 (Generated: 02/12/2024 14:24:04) Rev: 1

Submitted By: Kim Thompson