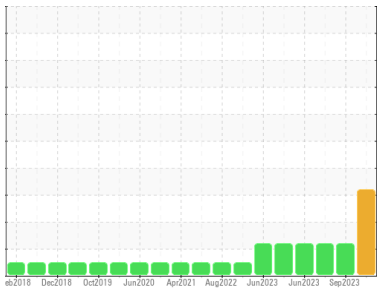
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
801032
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (22 LTR)

DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Wear

Copper ppm levels are noted. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Contamination

Light fuel dilution occurring. There is a moderate concentration of dirt present in the oil. Test for glycol is negative. No other contaminants were detected in the oil.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0111726**	GFL0094216	GFL0086491
Sample Date		Client Info		**05 Mar 2024**	07 Sep 2023	17 Jul 2023
Machine Age	hrs	Client Info		**6014**	120889	11269
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	**45**	15	10
Chromium	ppm	ASTM D5185(m)	>5	**1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	**<1**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>30	**6**	2	2
Lead	ppm	ASTM D5185(m)	>30	**7**	0	<1
Copper	ppm	ASTM D5185(m)	>150	**301**	1	<1
Tin	ppm	ASTM D5185(m)	>5	**<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	**26**	10	20
Barium	ppm	ASTM D5185(m)	0	**14**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**78**	56	56
Manganese	ppm	ASTM D5185(m)	0	**8**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**32**	846	839
Calcium	ppm	ASTM D5185(m)	1070	**2081**	958	978
Phosphorus	ppm	ASTM D5185(m)	1150	**924**	949	972
Zinc	ppm	ASTM D5185(m)	1270	**1083**	1096	1106
Sulfur	ppm	ASTM D5185(m)	2060	**2616**	2268	2366
Lithium	ppm	ASTM D5185(m)		**2**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**21**	5	6
Sodium	ppm	ASTM D5185(m)		**4**	6	6
Potassium	ppm	ASTM D5185(m)	>20	**4**	2	2
Fuel	%	ASTM D7593*	>5	**4.9**	7	7.1
Glycol	%	ASTM D7922*		**0.0**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.3**	0.2	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**11.7**	9.3	8.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.8**	19.5	19.7

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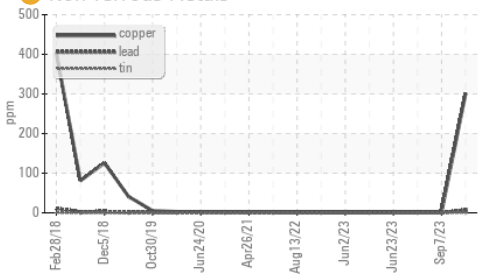
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**18.3**	15.8	15.5

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

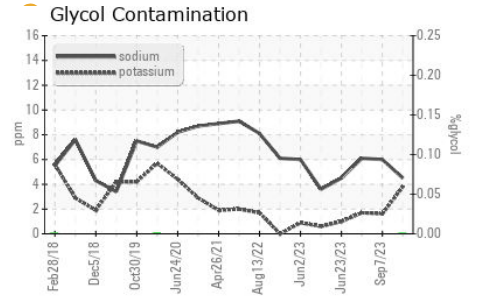
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	**12.7**	▲ 11.9	▲ 12.1

GRAPHS

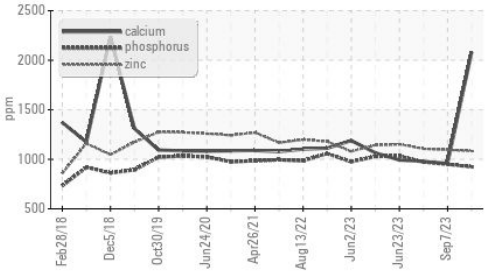
Non-ferrous Metals



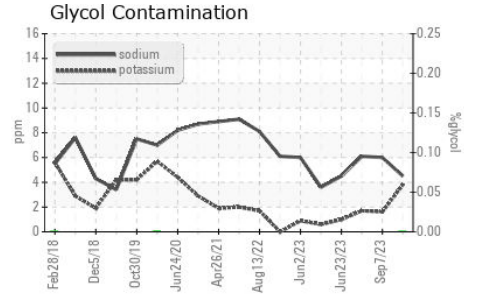
Glycol Contamination



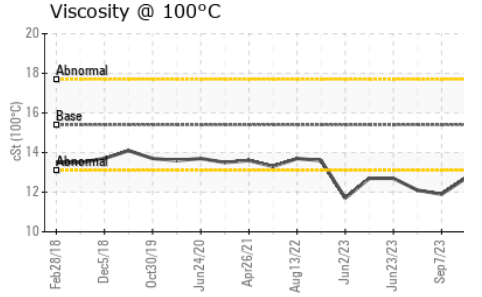
Additives



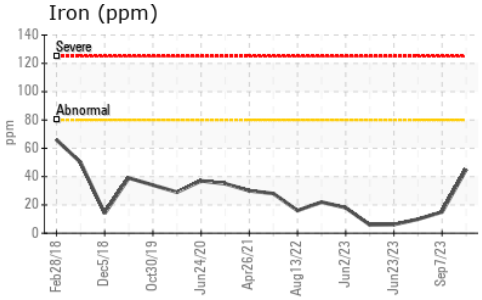
Glycol Contamination



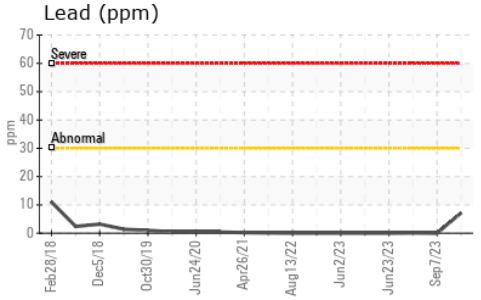
Viscosity @ 100°C



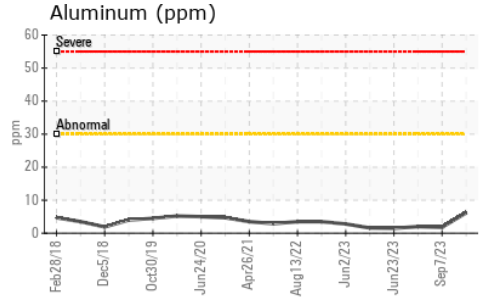
Iron (ppm)



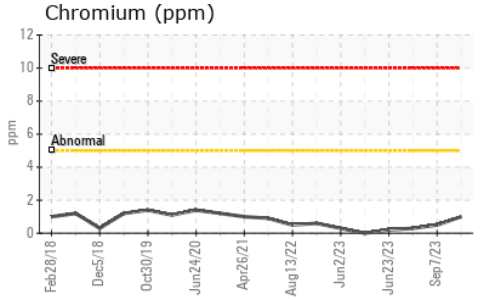
Lead (ppm)



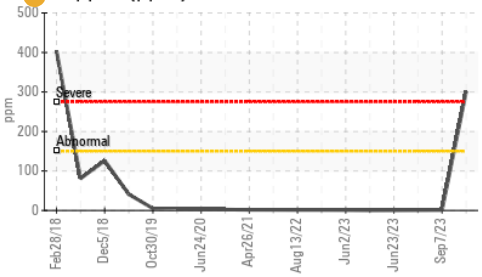
Aluminum (ppm)



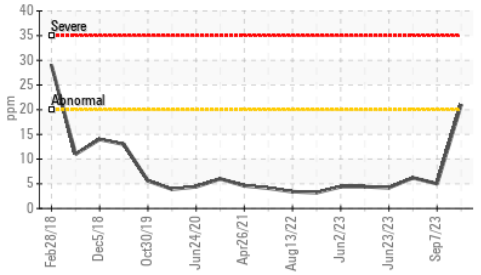
Chromium (ppm)



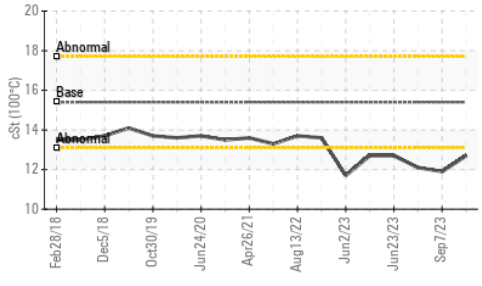
Copper (ppm)



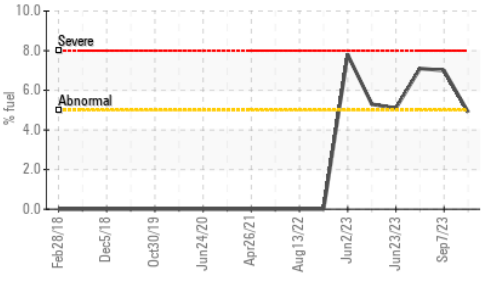
Silicon (ppm)



Viscosity @ 100°C



Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0111726
Lab Number : 02621321
Unique Number : 5746440
Test Package : MOB 1 (Additional Tests: Glycol, PercentFuel)

Received : 12 Mar 2024
Tested : 13 Mar 2024
Diagnosed : 13 Mar 2024 - Kevin Marson

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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Report Id: GFL217 [WCAMIS] 02621321 (Generated: 03/13/2024 12:09:46) Rev: 1

Submitted By: Scott Ewan