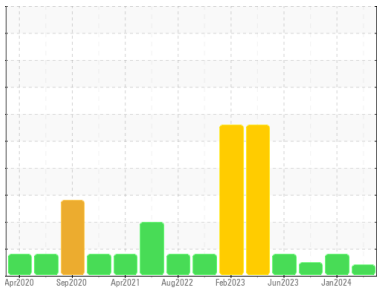
OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY

Machine Id
DR130
Component
Diesel Engine
Fluid
PETRO CANADA DURON UHP 5W40 (36 LTR)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

Fluid Condition
Viscosity of sample indicates oil is within SAE 5W30 range, advise investigate. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0088291**	PC0082675	PC0078039
Sample Date		Client Info		**03 May 2024**	11 Jan 2024	04 Aug 2023
Machine Age	hrs	Client Info		**17644**	17371	17128
Oil Age	hrs	Client Info		**0**	250	200
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL

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)	>100	**10**	7	6
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	<1
Nickel	ppm	ASTM D5185(m)	>4	**0**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	2	1
Lead	ppm	ASTM D5185(m)	>40	**0**	<1	0
Copper	ppm	ASTM D5185(m)	>330	**<1**	2	<1
Tin	ppm	ASTM D5185(m)	>15	**0**	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)	65	**40**	38	35
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	65	**59**	58	57
Manganese	ppm	ASTM D5185(m)	0	**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	1160	**1149**	1089	1053
Calcium	ppm	ASTM D5185(m)	820	**875**	934	997
Phosphorus	ppm	ASTM D5185(m)	1160	**1082**	1075	1080
Zinc	ppm	ASTM D5185(m)	1260	**1237**	1214	1205
Sulfur	ppm	ASTM D5185(m)	3000	**2916**	3089	2833
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**2**	2	3
Sodium	ppm	ASTM D5185(m)		**4**	4	4
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	<1
Fuel	%	ASTM D7593*	>5	**0.0**	1.1	0.8

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.2**	0.1	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**10.9**	9.3	9.2
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.1**	21.0	22.6

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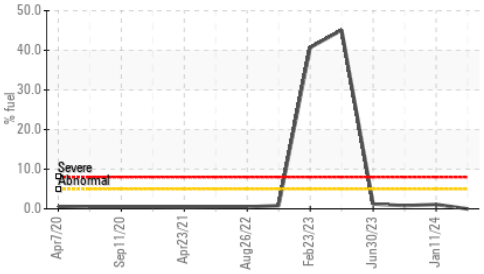
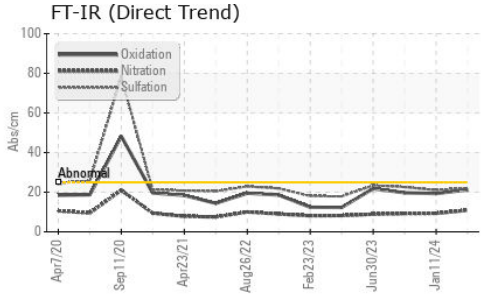
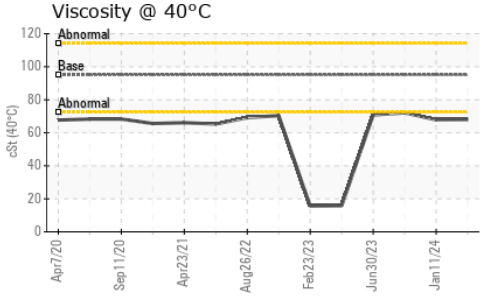
Fuel Dilution



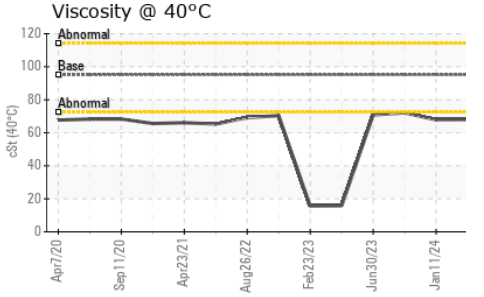
FT-IR (Direct Trend)



Viscosity @ 40°C



Viscosity @ 40°C



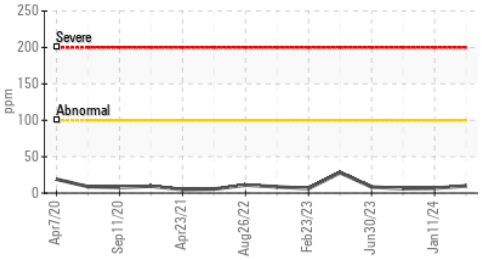
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**21.2**	19.3	19.7

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

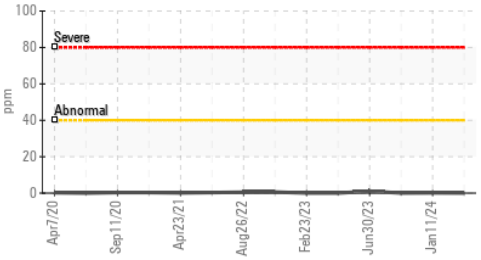
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	**68.0**	▲ 67.9	72.1
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	▲ **11.3**	▲ 11.2	11.9
Viscosity Index (VI)	Scale	ASTM D2270*	169	**159**	157	161

GRAPHS

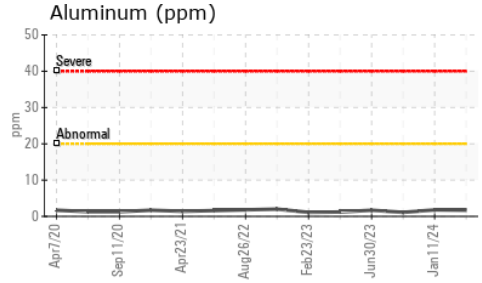
Iron (ppm)



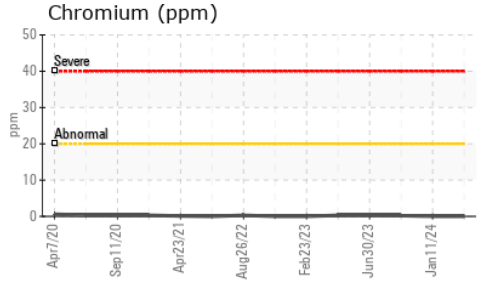
Lead (ppm)



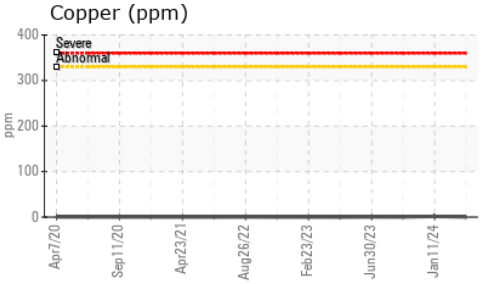
Aluminum (ppm)



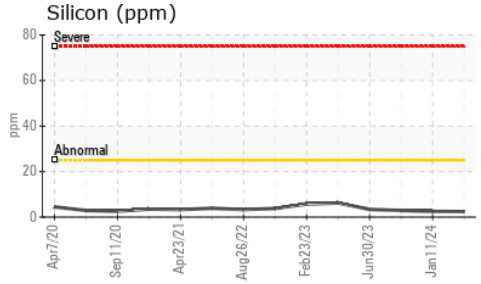
Chromium (ppm)



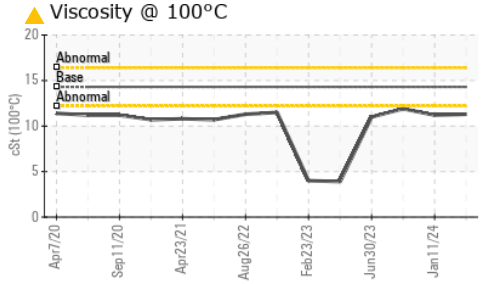
Copper (ppm)



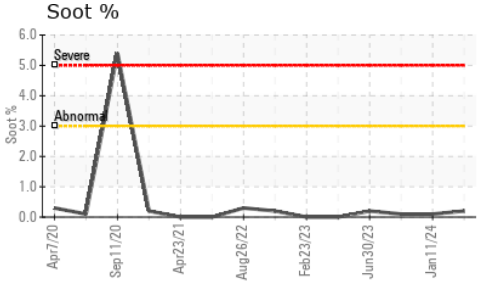
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0088291
Lab Number : 02636339
Unique Number : 5785501
Test Package : MOB 1 (Additional Tests: FUELDILUTION, KV40, PercentFuel, VI)

Received : 17 May 2024
Tested : 22 May 2024
Diagnosed : 22 May 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: GFL286 [WCAMIS] 02636339 (Generated: 05/22/2024 14:10:46) Rev: 1

Contact/Location: Shannon Abbott - GFL286