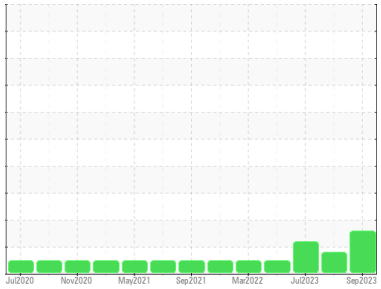
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
1418
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

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
Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0031544**	PC0031536	PC0018602
Sample Date		Client Info		**15 Sep 2023**	07 Aug 2023	04 Jul 2023
Machine Age	kms	Client Info		**609890**	602873	596647
Oil Age	kms	Client Info		**13243**	6226	14550
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	MARGINAL	ABNORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Glycol	WC Method		**NEG**	NEG	0.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**22**	11	21
Chromium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	1	2
Lead	ppm	ASTM D5185(m)	>40	**1**	0	2
Copper	ppm	ASTM D5185(m)	>330	**20**	4	8
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)	0	**10**	13	42
Barium	ppm	ASTM D5185(m)	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**51**	47	11
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**781**	753	143
Calcium	ppm	ASTM D5185(m)	1070	**1256**	1269	2136
Phosphorus	ppm	ASTM D5185(m)	1150	**928**	1006	1019
Zinc	ppm	ASTM D5185(m)	1270	**1166**	1158	1201
Sulfur	ppm	ASTM D5185(m)	2060	**2252**	2459	2681
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**6**	5	7
Sodium	ppm	ASTM D5185(m)		**15**	10	19
Potassium	ppm	ASTM D5185(m)	>20	**1**	2	7
Fuel	%	ASTM D7593*	>5	▲ **5.5**	▲ 4.8	▲ 5

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.4**	0.2	0.5
Nitration	Abs/cm	ASTM D7624*	>20	**10.9**	9.1	11.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	**23.4**	22.4	27.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.9**	16.8	23.0

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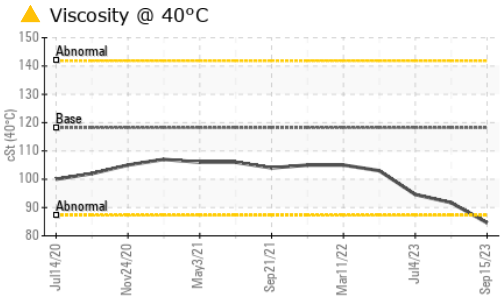
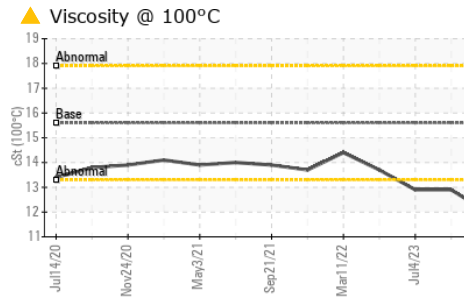
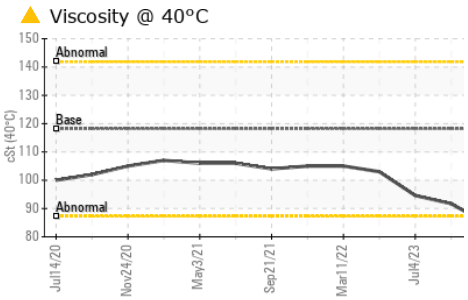
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

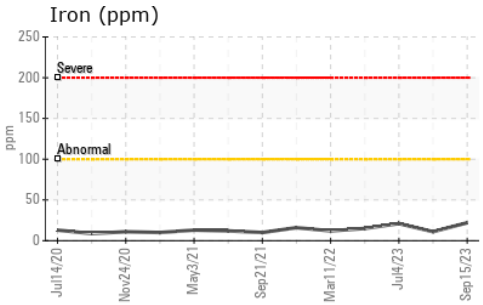
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	118.2	▲ **84.6**	91.7	94.6
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	▲ **12.0**	12.9	▲ 12.9
Viscosity Index (VI)	Scale	ASTM D2270*	139	**135**	138	133

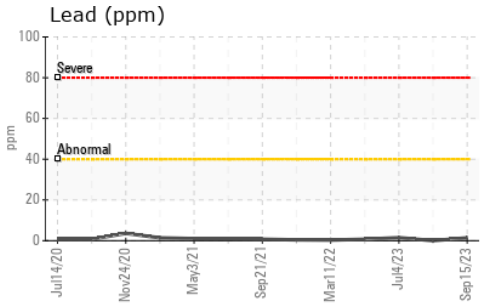
GRAPHS

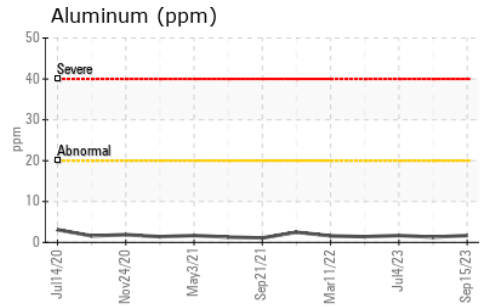


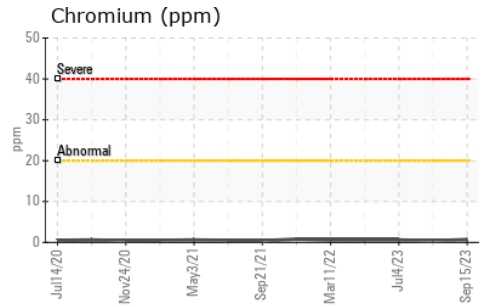


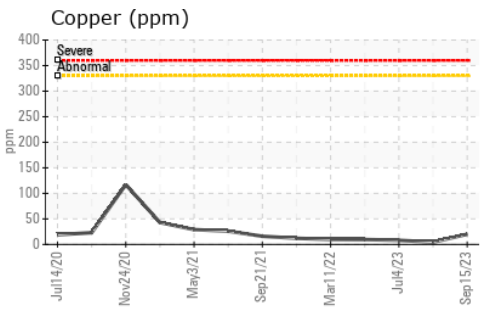


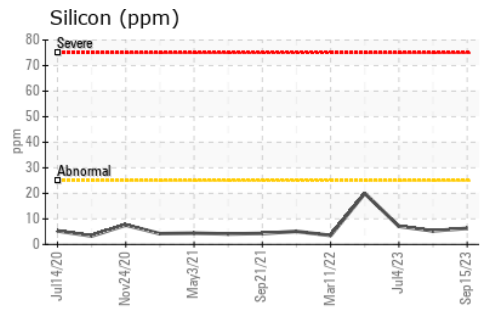


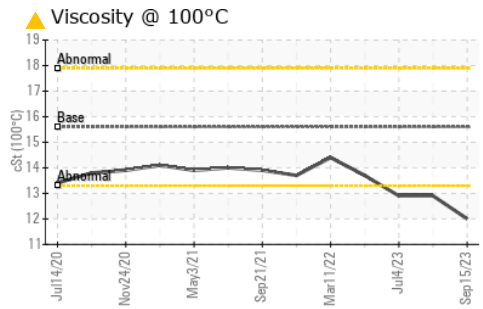


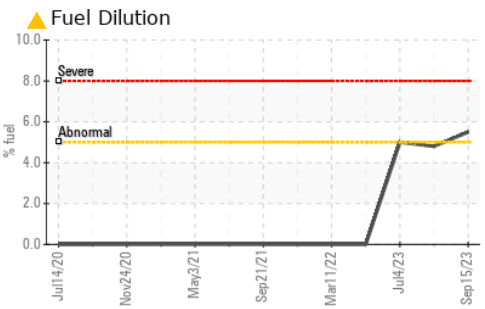












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0031544 **Received** : 11 Oct 2023
Lab Number : 02588092 **Diagnosed** : 12 Oct 2023
Unique Number : 5657158 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: FuelDilution, KV40, PercentFuel, VI)

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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