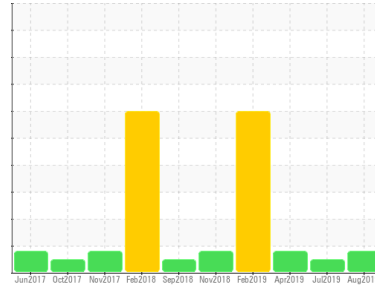


OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
FREIGHTLINER 56134
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- LTR)

DIAGNOSIS

Recommendation

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

Wear

Aluminum ppm levels are abnormal. Piston wear is indicated.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number			WC0364494	WC0364477	WC0329554
Sample Date			29 Aug 2019	23 Jul 2019	03 Apr 2019
Machine Age	kms		999929	10699	929516
Oil Age	kms		19286	0	0
Oil Changed			Changed	Not Changd	Changed
Sample Status			ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	ASTM D3524	>3.0	<1.0	<1.0	<1.0
Glycol	ASTM D2982		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm ASTM D5185	>120	74	47	62
Chromium	ppm ASTM D5185	>20	3	2	3
Nickel	ppm ASTM D5185	>2	<1	<1	<1
Titanium	ppm ASTM D5185	>2	<1	0	0
Silver	ppm ASTM D5185	>2	0	0	0
Aluminum	ppm ASTM D5185	>20	▲ 25	19	▲ 40
Lead	ppm ASTM D5185	>40	0	<1	<1
Copper	ppm ASTM D5185	>30	5	4	6
Tin	ppm ASTM D5185	>15	<1	0	0
Antimony	ppm ASTM D5185		<1	<1	0
Vanadium	ppm ASTM D5185		<1	0	0
Beryllium	ppm ASTM D5185		0	0	0
Cadmium	ppm ASTM D5185		0	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm ASTM D5185	2	2	2	<1
Barium	ppm ASTM D5185	0	0	0	0
Molybdenum	ppm ASTM D5185	50	79	70	70
Manganese	ppm ASTM D5185	0	<1	<1	<1
Magnesium	ppm ASTM D5185	950	1262	1135	1115
Calcium	ppm ASTM D5185	1050	1350	1210	1187
Phosphorus	ppm ASTM D5185	995	1276	1170	1129
Zinc	ppm ASTM D5185	1180	1639	1453	1430
Sulfur	ppm ASTM D5185	2600	2677	2690	2495
Lithium	ppm ASTM D5185		<1	0	0

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm ASTM D5185	>25	5	5	6
Sodium	ppm ASTM D5185		2	2	4
Potassium	ppm ASTM D5185	>20	2	1	2

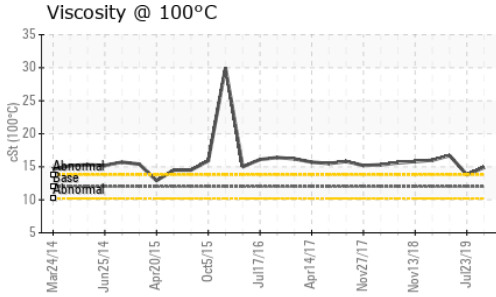
INFRA-RED

	method	limit/base	current	history 1	history 2
Soot %	% ASTM D7686	>3	1.5	1.2	1
Nitration	Abs/cm ASTM D7624	>20	16.0	13.5	14.5
Sulfation	Abs/.1mm ASTM D7415	>30	35.1	29.9	29.9

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm ASTM D7414	>25	31.1	25.2	28.4

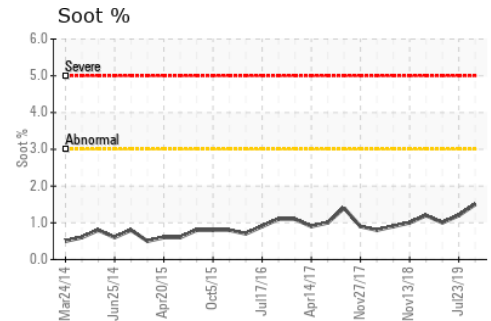
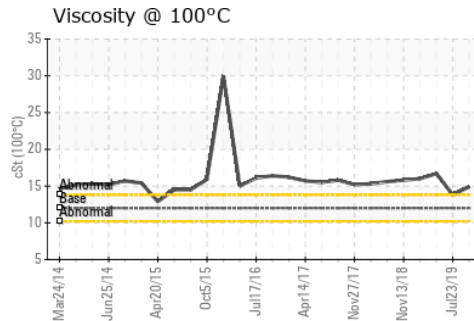
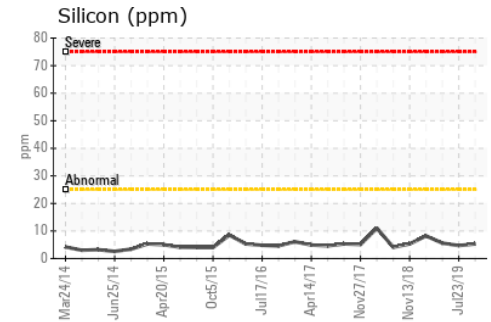
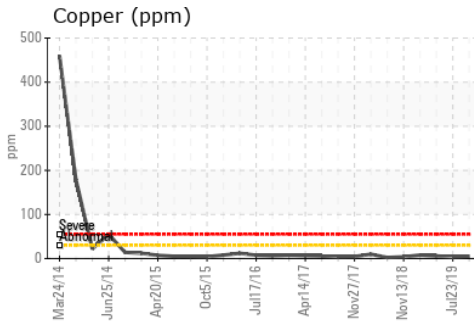
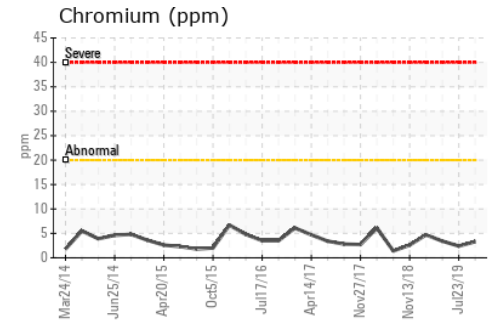
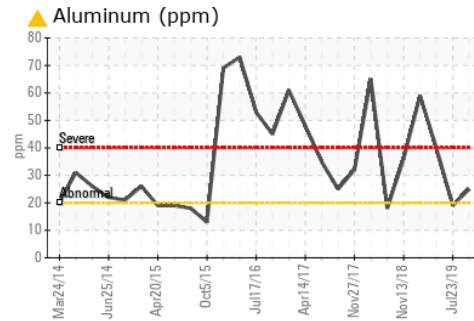
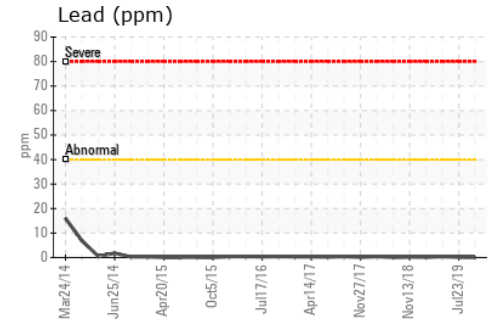
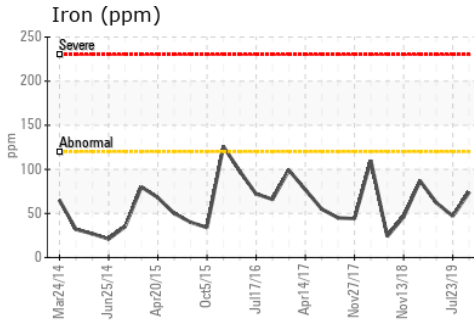
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
Emulsified Water	scalar	Visual	>0.2	NEG	NEG
Free Water	scalar	Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D7279	12.00	14.9	13.8

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC1234567 **Received** : 13 Sep 2019
Lab Number : **01234567** **Diagnosed** : 13 Sep 2019
Unique Number : 12345678 **Diagnostician** : Kevin Marson
Test Package : MOB 1

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 1212 Industrial Place
 Centerville, OH
 USA 75900
 Contact: Jim Leduc
 jim.leduc@cusanylogisticsinc.com
 T: (305)555-1212
 F: (305)555-1222

*To discuss diagnosis or test data, contact Technical Support at 1-800-268-2131.
 To change component or sample information, contact Customer Service at 1-800-268-2131.*