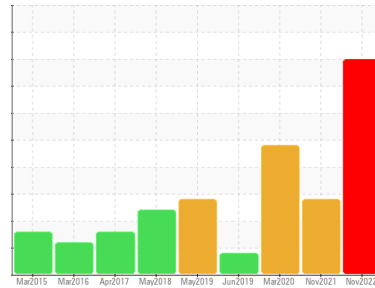


OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Area
[83040]
Machine Id
DETROIT 3D180861
Component
Diesel Engine
Fluid
SHELL ROTELLA T 40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

Metal levels are typical for a new component breaking in.

Contamination

Test for glycol is positive. Light fuel dilution occurring. There is a high concentration of glycol present in the oil. No other contaminants were detected 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		WA0018610	WA0016875	WA0015355
Sample Date	Client Info		04 Nov 2022	09 Nov 2021	31 Mar 2020
Machine Age	hrs	Client Info	254	254	254
Oil Age	hrs	Client Info	0	20	30
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	SEVERE	SEVERE

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>200	6	6	5
Chromium	ppm	ASTM D5185(m)	>20	0	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	0	0	0
Titanium	ppm	ASTM D5185(m)	>2	<1	0	<1
Silver	ppm	ASTM D5185(m)	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>30	2	<1	1
Lead	ppm	ASTM D5185(m)	>30	6	3	2
Copper	ppm	ASTM D5185(m)	>30	9	5	5
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		<1	<1	<1

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	6	3	2
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)	0	101	85	90
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	432	25	210	187
Calcium	ppm	ASTM D5185(m)	1121	2590	1920	2058
Phosphorus	ppm	ASTM D5185(m)	996	1042	799	808
Zinc	ppm	ASTM D5185(m)	881	1104	852	884
Sulfur	ppm	ASTM D5185(m)		2759	2360	3827
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>30	5	2	3
Sodium	ppm	ASTM D5185(m)		12	4	2
Potassium	ppm	ASTM D5185(m)	>20	6	3	2
Fuel	%	ASTM D7593*	>3.0	2.4	6.8	5.4
Glycol	%	ASTM D7922*		0.101	NEG	0.022

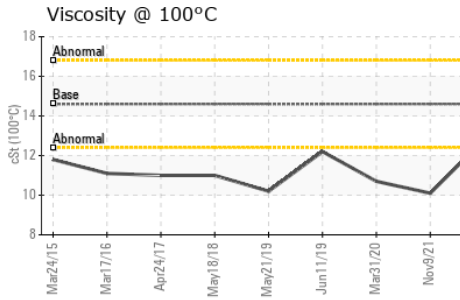
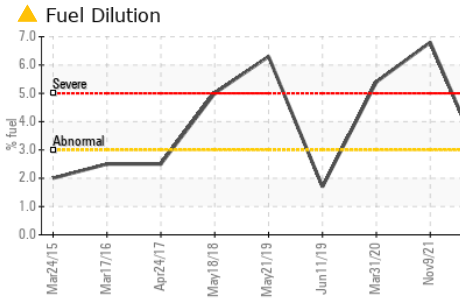
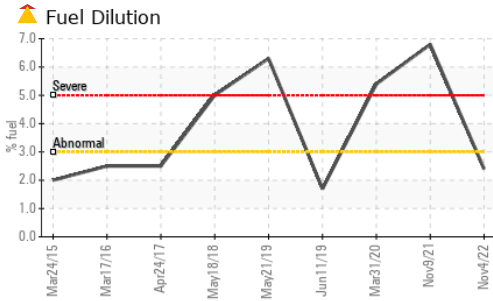
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	3.5	3.4	4.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	14.3	14.2	17.3

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	7.0	6.3	6.3

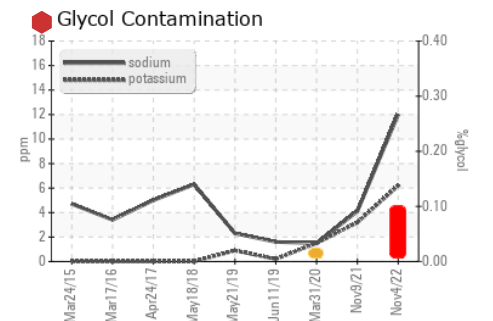
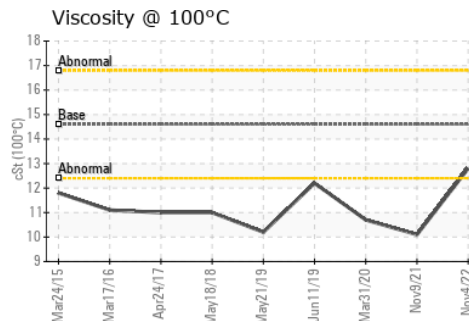
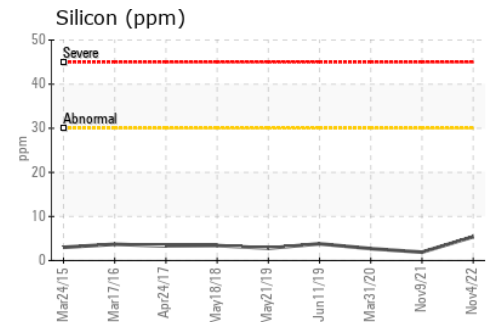
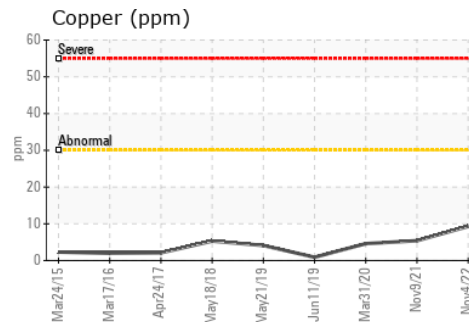
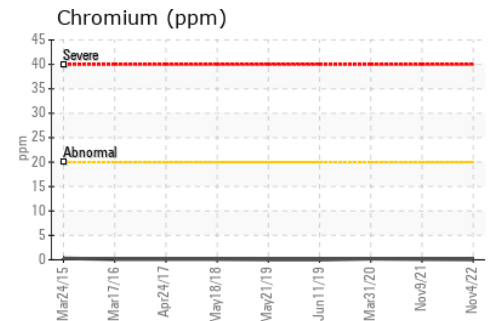
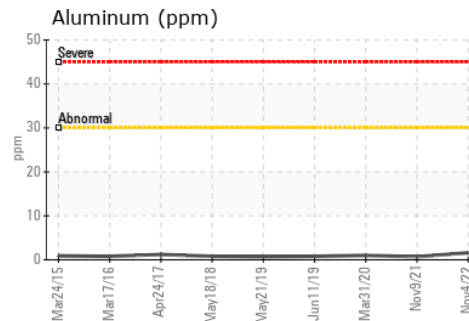
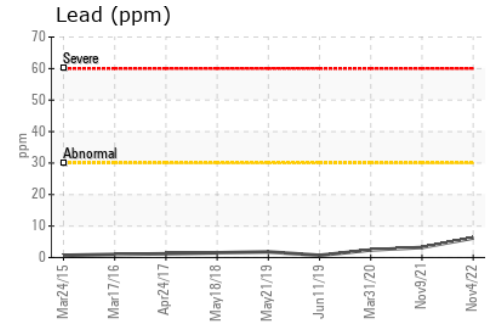
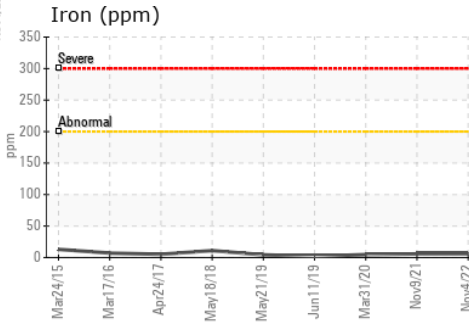
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.6	12.8	10.1

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WA0018610 **Received** : 15 Nov 2022
Lab Number : 02522725 **Diagnosed** : 16 Nov 2022
Unique Number : 5487706 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol, 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.

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