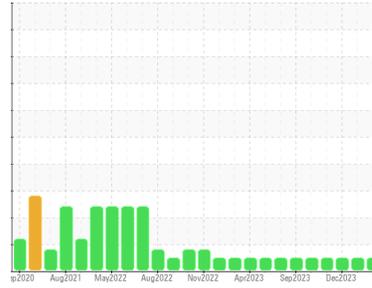




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
PWGSC [103311]
 Machine Id
UNIT 2 (S/N 7A70867)
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			CU0020726	CU0020723	CU0020717
Sample Date	Client Info			08 Apr 2024	05 Feb 2024	04 Dec 2023
Machine Age	hrs	Client Info		0	1178	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			Not Chngd	N/A	Not Chngd
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
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	3	3	3
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>4	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	1	2	1
Lead	ppm	ASTM D5185(m)	>40	0	<1	<1
Copper	ppm	ASTM D5185(m)	>330	1	<1	<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)	35	44	43	43
Barium	ppm	ASTM D5185(m)	0	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	0	49	49	49
Manganese	ppm	ASTM D5185(m)	0	<1	0	0
Magnesium	ppm	ASTM D5185(m)	10	800	784	787
Calcium	ppm	ASTM D5185(m)	2340	1146	1145	1144
Phosphorus	ppm	ASTM D5185(m)	1110	698	707	691
Zinc	ppm	ASTM D5185(m)	1210	800	802	801
Sulfur	ppm	ASTM D5185(m)	3890	1895	2045	1913
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

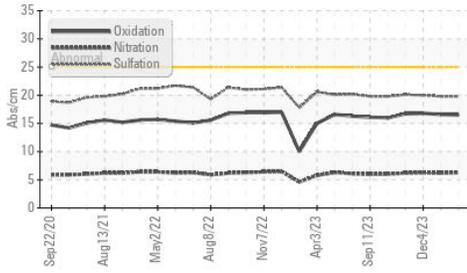
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	4	5	6
Sodium	ppm	ASTM D5185(m)		3	3	3
Potassium	ppm	ASTM D5185(m)	>20	0	<1	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	6.3	6.2	6.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.8	19.8	20.0



OIL ANALYSIS REPORT

FT-IR (Direct Trend)



FLUID DEGRADATION method limit/base current history1 history2

Oxidation	Abs/1mm	ASTM D7414*	>25	16.5	16.6	16.8
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VISUAL method limit/base current history1 history2

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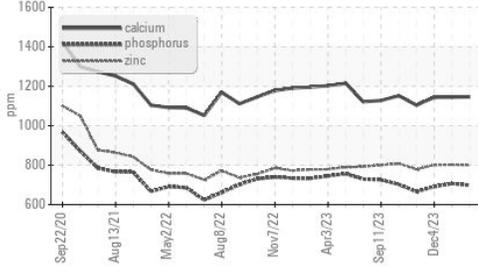
Free Water	scalar	Visual*		NEG	NEG	NEG
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FLUID PROPERTIES method limit/base current history1 history2

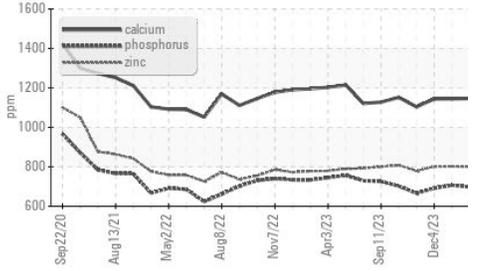
Visc @ 100°C	cSt	ASTM D7279(m)	15.7	14.0	14.2	14.2
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GRAPHS

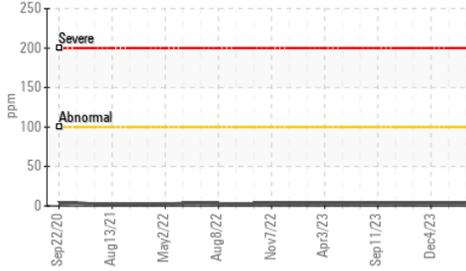
Additives



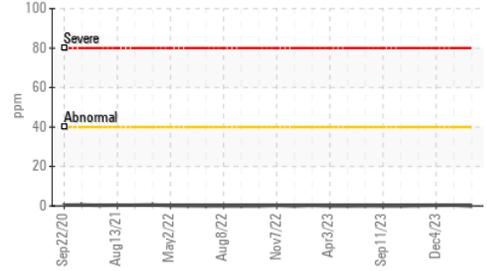
Additives



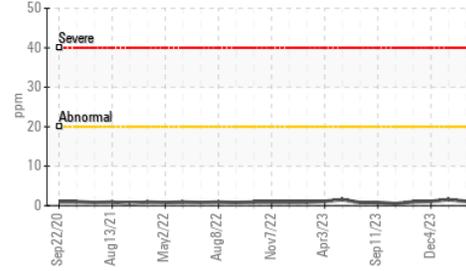
Iron (ppm)



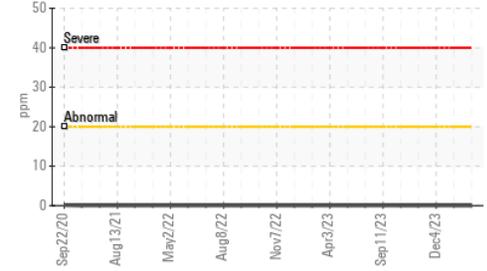
Lead (ppm)



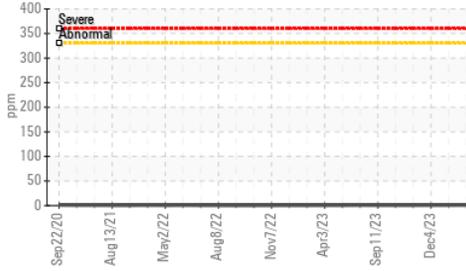
Aluminum (ppm)



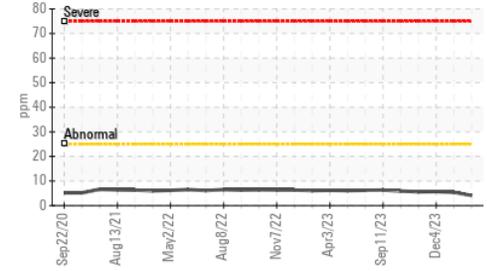
Chromium (ppm)



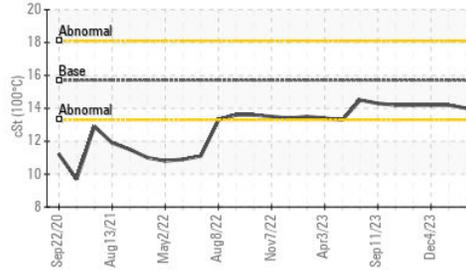
Copper (ppm)



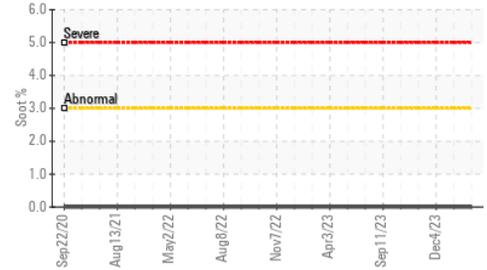
Silicon (ppm)



Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : CU0020726
Lab Number : **02628652**
Unique Number : 5761784
Test Package : MOB 1

Received : 15 Apr 2024
Tested : 15 Apr 2024
Diagnosed : 15 Apr 2024 - Kevin Marson

CUMMINS EASTERN CANADA LP
 3189 SWANSEA CRESCENT
 OTTAWA, ON
 CA K1G 3W5
 Contact: Cindy Harrison
 cindy.harrison@cummins.com
 T: (613)736-1146
 F: x:

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.