



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
CN RAIL [153817]

Machine Id
74959516

Component
Diesel Engine

Fluid
VALVOLINE PREMIUM BLUE EXTREME 5W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		CU0022229	CU0022468	---
Sample Date		Client Info		09 Feb 2024	03 Jan 2024	---
Machine Age	hrs	Client Info		2306	2135	---
Oil Age	hrs	Client Info		0	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>90	11	26	---
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	---
Nickel	ppm	ASTM D5185(m)	>2	0	<1	---
Titanium	ppm	ASTM D5185(m)	>2	0	0	---
Silver	ppm	ASTM D5185(m)	>2	0	0	---
Aluminum	ppm	ASTM D5185(m)	>20	2	2	---
Lead	ppm	ASTM D5185(m)	>40	0	1	---
Copper	ppm	ASTM D5185(m)	>330	<1	2	---
Tin	ppm	ASTM D5185(m)	>15	0	0	---
Vanadium	ppm	ASTM D5185(m)		0	0	---

CONTAMINATION

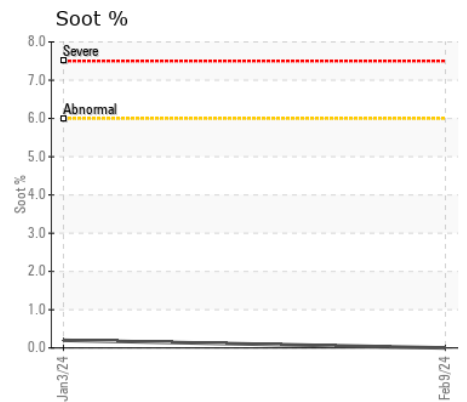
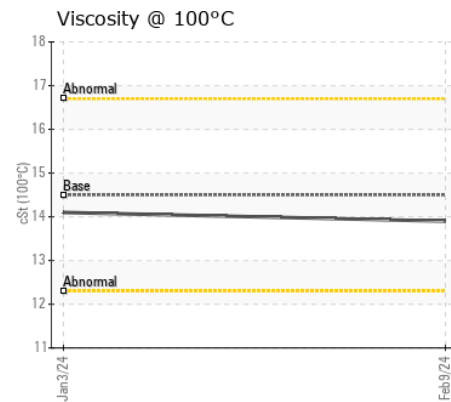
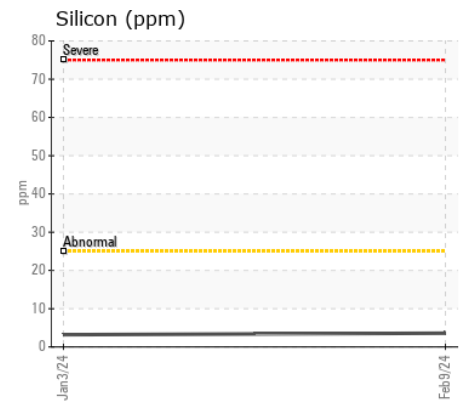
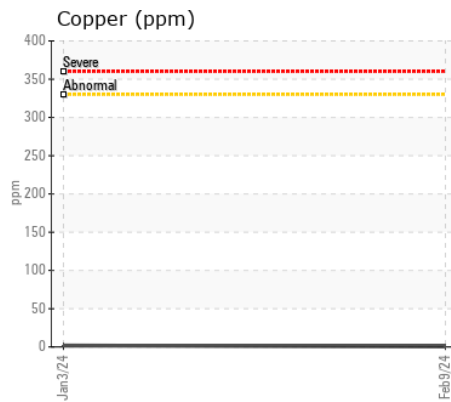
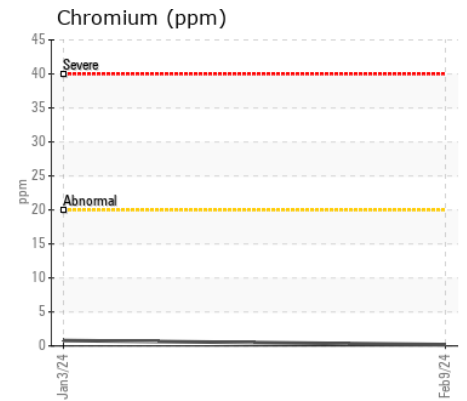
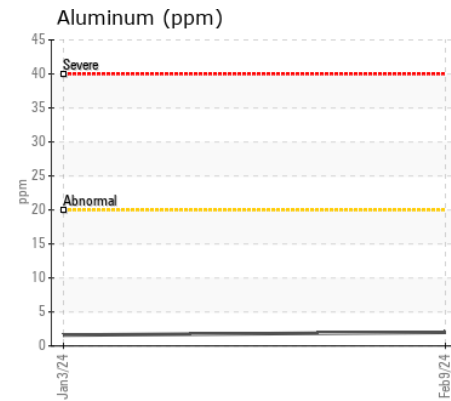
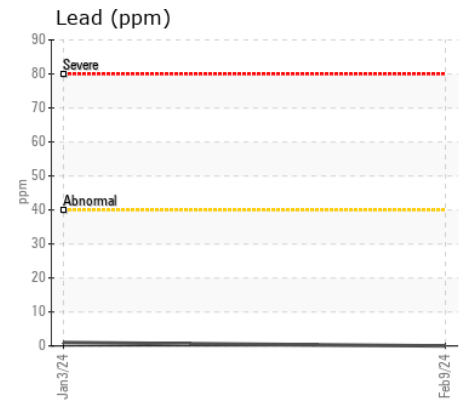
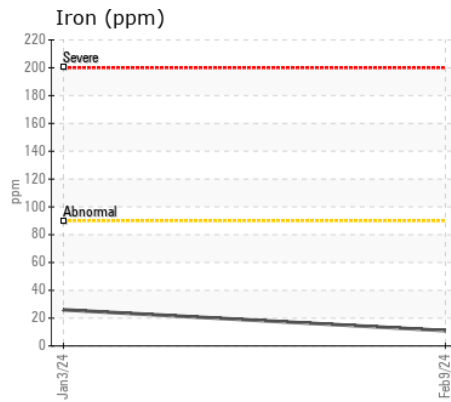
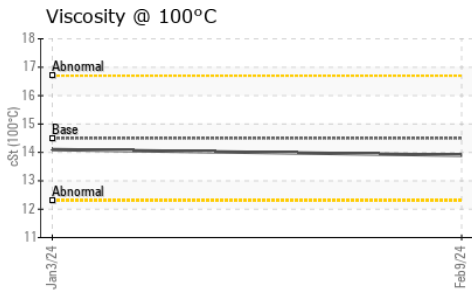
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	4	3	---
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	---
Fuel		WC Method	>3.0	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	ASTM D7844*	>6	0	0.2	---
Nitration	Abs/cm	ASTM D7624*	>20	9.0	12.8	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.2	24.3	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	---

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		3	4	---
Boron	ppm	ASTM D5185(m)		51	35	---
Barium	ppm	ASTM D5185(m)		0	0	---
Molybdenum	ppm	ASTM D5185(m)		63	61	---
Manganese	ppm	ASTM D5185(m)		0	0	---
Magnesium	ppm	ASTM D5185(m)		1098	1082	---
Calcium	ppm	ASTM D5185(m)		849	798	---
Phosphorus	ppm	ASTM D5185(m)		1000	970	---
Zinc	ppm	ASTM D5185(m)		1149	1159	---
Sulfur	ppm	ASTM D5185(m)		2889	2731	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	19.7	28.6	---
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	13.9	14.1	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : CU0022229
Lab Number : 02615889
Unique Number : 5732999
Test Package : MOB 1
Received : 15 Feb 2024
Tested : 15 Feb 2024
Diagnosed : 15 Feb 2024 - Wes Davis

CUMMINS CANADA ULC - GENERATOR DIVISION
 7175 PACIFIC CIRCLE
 MISSISSAUGA, ON
 CA L5T 2A5
 Contact: Elisia Johnson
 elisia.johnson@cummins.com
 T: (905)795-0050
 F: (905)795-9252

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.