



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

CN RAIL [154522]

Machine Id

74975586

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		CU0022782	CU0020857	---
Sample Date		Client Info		29 Feb 2024	12 Mar 2023	---
Machine Age	hrs	Client Info		1638	627	---
Oil Age	hrs	Client Info		1	627	---
Filter Age	hrs	Client Info		1	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	ABNORMAL	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185(m)	>90	20	39	---
Chromium	ppm	ASTM D5185(m)	>20	<1	1	---
Nickel	ppm	ASTM D5185(m)	>2	0	<1	---
Titanium	ppm	ASTM D5185(m)	>2	0	<1	---
Silver	ppm	ASTM D5185(m)	>2	0	0	---
Aluminum	ppm	ASTM D5185(m)	>20	1	3	---
Lead	ppm	ASTM D5185(m)	>40	<1	4	---
Copper	ppm	ASTM D5185(m)	>330	6	46	---
Tin	ppm	ASTM D5185(m)	>15	0	1	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

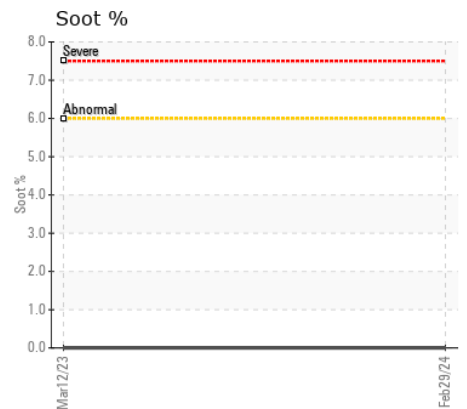
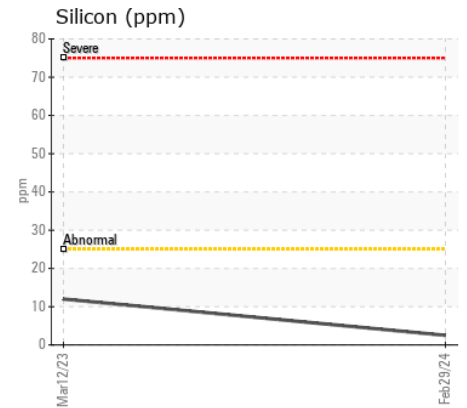
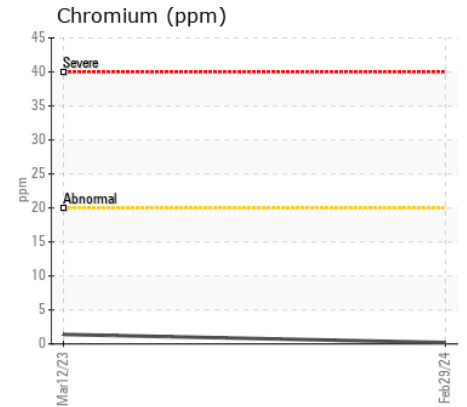
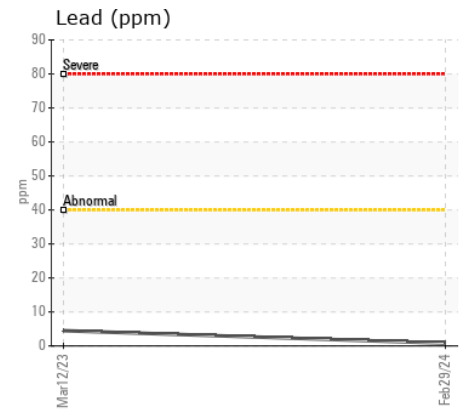
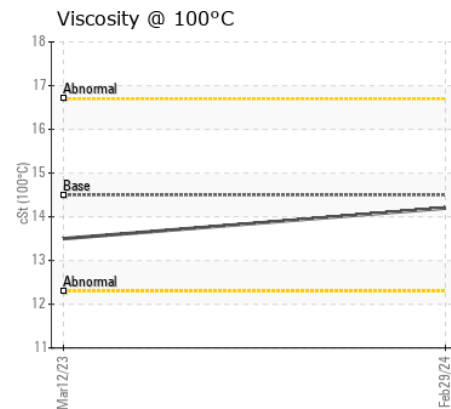
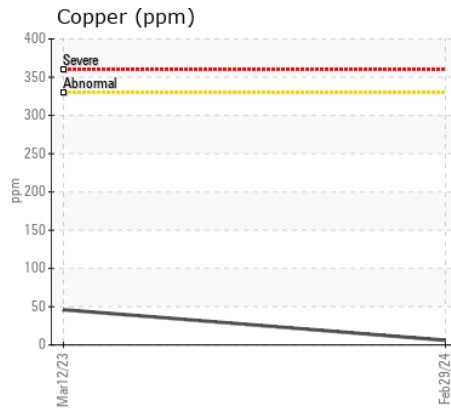
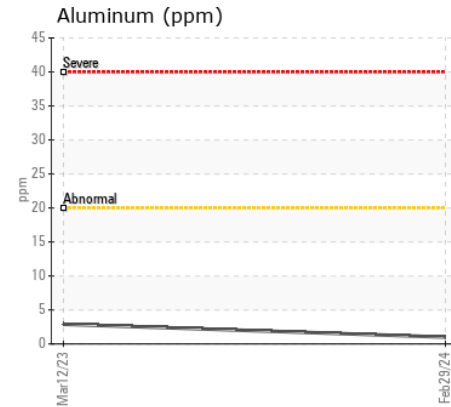
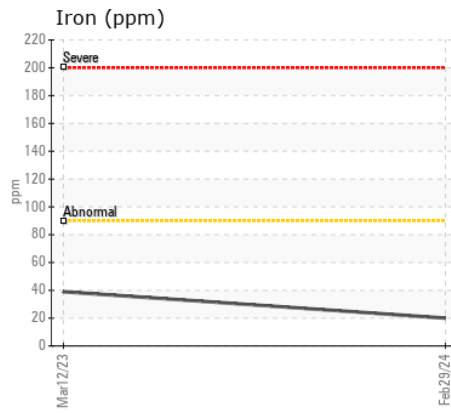
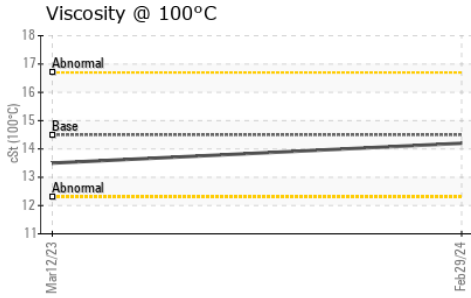
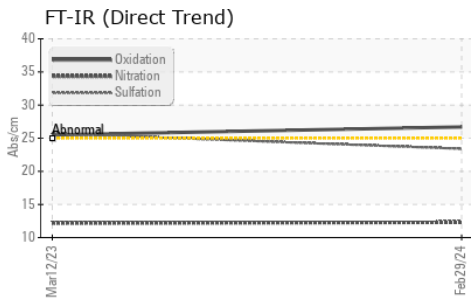
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	2	12	---
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	---
Fuel		WC Method	>3.0	<1.0	▲ 2.4	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	ASTM D7844*	>6	0	0	---
Nitration	Abs/cm	ASTM D7624*	>20	12.3	12.2	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	23.4	25.7	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	VLITE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
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)		4	7	---
Boron	ppm	ASTM D5185(m)		42	42	---
Barium	ppm	ASTM D5185(m)		0	3	---
Molybdenum	ppm	ASTM D5185(m)		61	59	---
Manganese	ppm	ASTM D5185(m)		<1	5	---
Magnesium	ppm	ASTM D5185(m)		1076	1077	---
Calcium	ppm	ASTM D5185(m)		852	942	---
Phosphorus	ppm	ASTM D5185(m)		931	1005	---
Zinc	ppm	ASTM D5185(m)		1166	1174	---
Sulfur	ppm	ASTM D5185(m)		2493	2561	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	26.7	25.5	---
Visc @ 100°C	cSt	ASTM D7279(m)	14.5	14.2	13.5	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : CU0022782 **Received** : 10 Jun 2024
Lab Number : 02640658 **Tested** : 10 Jun 2024
Unique Number : 5789820 **Diagnosed** : 11 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Visual)

CN RAIL
 76 INTERMODAL DR
 BRAMPTON, ON
 CA L6T 5B3
 Contact: Service Manager

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.

T:
F: