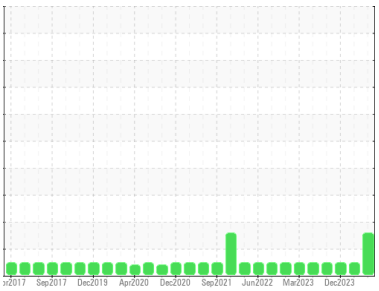
OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
NOVA BUS 1639
Component
Natural Gas Engine
Fluid
VALVOLINE PREMIUM BLUE 9200 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
There is a moderate concentration of water present in the oil. Test for glycol is negative.

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		**WC0937140**	WC0891055	WC0849889
Sample Date		Client Info		**12 Jun 2024**	08 Mar 2024	08 Dec 2023
Machine Age	kms	Client Info		**460057**	444271	426762
Oil Age	kms	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	**11**	10	10
Chromium	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>9	**1**	2	2
Lead	ppm	ASTM D5185(m)	>30	**3**	2	3
Copper	ppm	ASTM D5185(m)	>35	**<1**	<1	1
Tin	ppm	ASTM D5185(m)	>4	**0**	<1	<1
Antimony	ppm	ASTM D5185(m)		**<1**	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)		**8**	9	8
Barium	ppm	ASTM D5185(m)		**0**	0	<1
Molybdenum	ppm	ASTM D5185(m)		**57**	56	56
Manganese	ppm	ASTM D5185(m)		**<1**	0	0
Magnesium	ppm	ASTM D5185(m)		**870**	848	837
Calcium	ppm	ASTM D5185(m)		**1341**	1299	1288
Phosphorus	ppm	ASTM D5185(m)		**712**	703	680
Zinc	ppm	ASTM D5185(m)		**917**	914	908
Sulfur	ppm	ASTM D5185(m)		**1992**	2119	1984
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>+100	**14**	4	6
Sodium	ppm	ASTM D5185(m)		**4**	3	4
Potassium	ppm	ASTM D5185(m)	>20	**0**	2	<1
Water	%	ASTM D6304*	>0.1	▲ **0.202**	---	---
ppm Water	ppm	ASTM D6304*	>1000	▲ **2021**	---	---
Glycol	%	ASTM D7922*		**0.0**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**13.2**	13.5	13.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**24.8**	24.2	24.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**21.5**	21.4	22.1

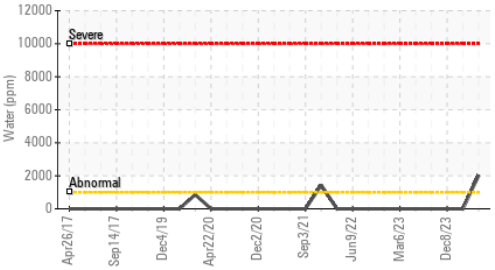
OIL ANALYSIS REPORT

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.1	▲ .2%	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

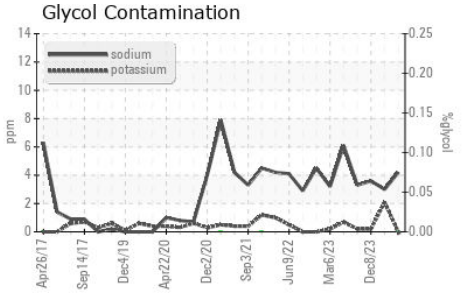
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.8	**14.3**	14.3	14.5

GRAPHS

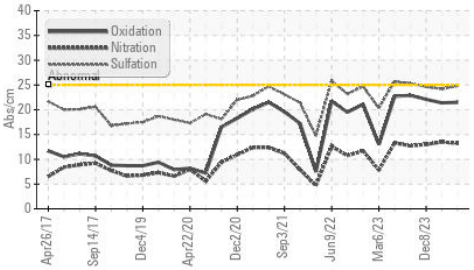
Water (KF)



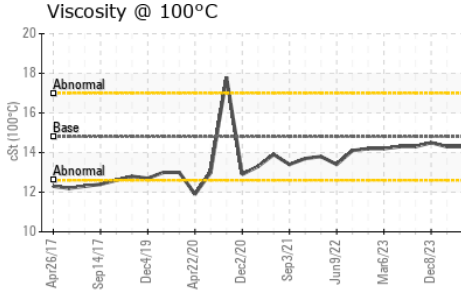
Glycol Contamination



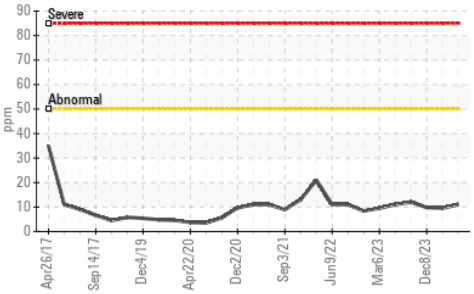
FT-IR (Direct Trend)



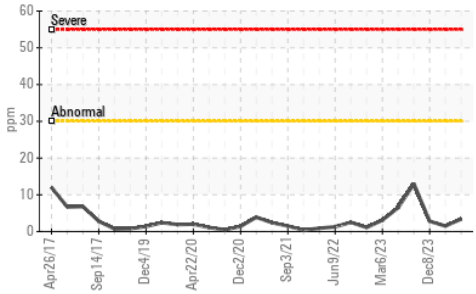
Viscosity @ 100°C



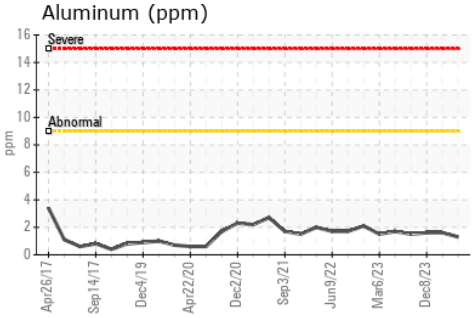
Iron (ppm)



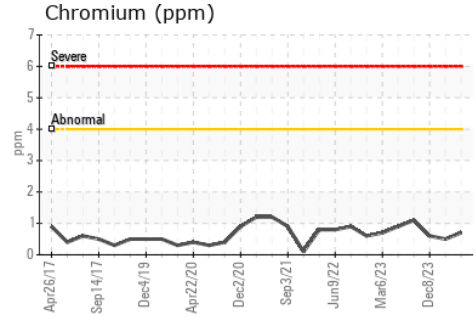
Lead (ppm)



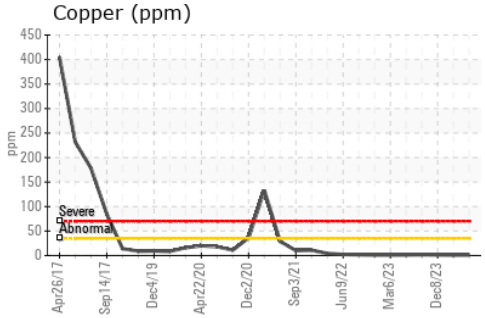
Aluminum (ppm)



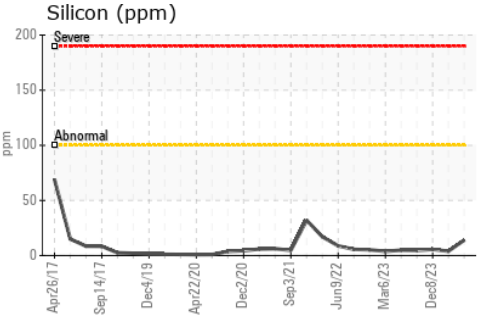
Chromium (ppm)



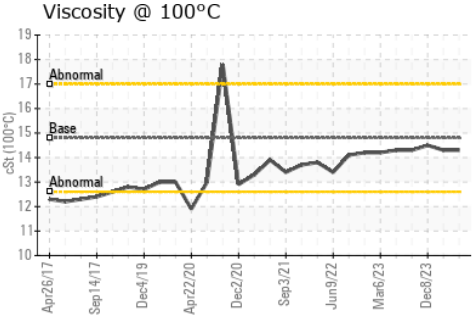
Copper (ppm)



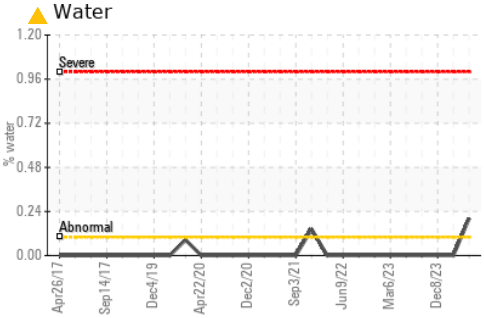
Silicon (ppm)



Viscosity @ 100°C



Water



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0937140 **Received** : 18 Jun 2024
Lab Number : 02642563 **Tested** : 20 Jun 2024
Unique Number : 5800102 **Diagnosed** : 20 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol, KF)

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.

CITY OF HAMILTON
2200 UPPER JAMES,, MOUNTAIN TRANSIT STOREROOM
MOUNT HOPE, ON
CA L0R 1W0
Contact: Jeff Parr
jeff.parr@hamilton.ca
T: (905)546-2424
F: (905)679-4502