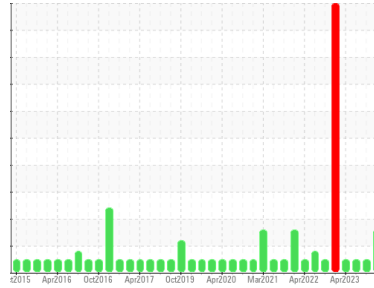




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Machine Id
NEW FLYER 1421
 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		WC0891082	WC0830289	WC0830061
Sample Date	Client Info		17 Jan 2024	12 Oct 2023	13 Jul 2023
Machine Age	kms Client Info		596736	579162	0
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	15	11	13
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	<1
Silver	ppm ASTM D5185(m)	>3	0	0	0
Aluminum	ppm ASTM D5185(m)	>9	2	2	2
Lead	ppm ASTM D5185(m)	>30	<1	2	2
Copper	ppm ASTM D5185(m)	>35	<1	<1	1
Tin	ppm ASTM D5185(m)	>4	<1	0	<1
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)		9	14	6
Barium	ppm ASTM D5185(m)		0	<1	0
Molybdenum	ppm ASTM D5185(m)		61	59	55
Manganese	ppm ASTM D5185(m)		0	0	<1
Magnesium	ppm ASTM D5185(m)		940	920	885
Calcium	ppm ASTM D5185(m)		1415	1388	1314
Phosphorus	ppm ASTM D5185(m)		790	767	726
Zinc	ppm ASTM D5185(m)		993	986	908
Sulfur	ppm ASTM D5185(m)		2237	2055	1947
Lithium	ppm ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m)	>+100	5	5	7
Sodium	ppm ASTM D5185(m)		5	4	5
Potassium	ppm ASTM D5185(m)	>20	0	0	<1
Water	% ASTM D6304*	>0.1	▲ 0.273	---	---
ppm Water	ppm ASTM D6304*	>1000	▲ 2738	---	---
Glycol	% ASTM D7922*		0.0	---	---

INFRA-RED

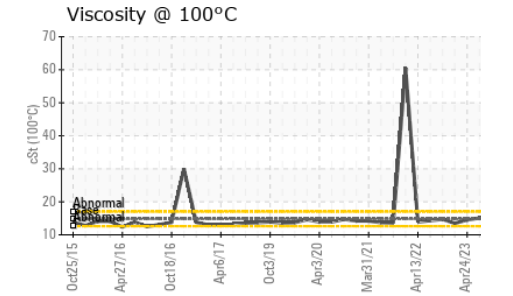
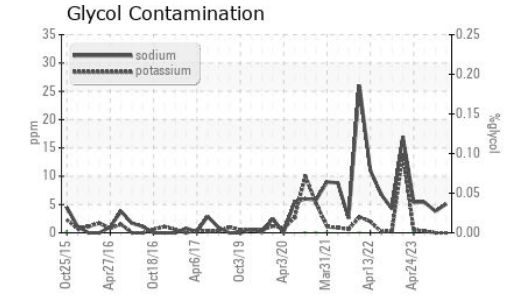
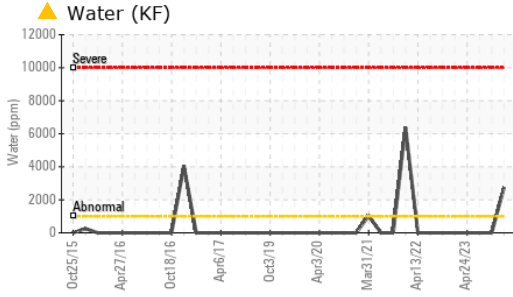
	method	limit/base	current	history1	history2
Soot %	% ASTM D7844*		0	0	0
Nitration	Abs/cm ASTM D7624*	>20	14.3	11.8	12.0
Sulfation	Abs/.1mm ASTM D7415*	>30	26.1	25.1	24.6

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm ASTM D7414*	>25	22.2	21.6	21.8



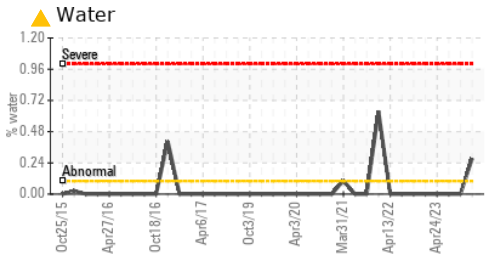
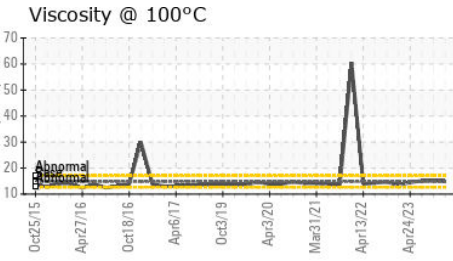
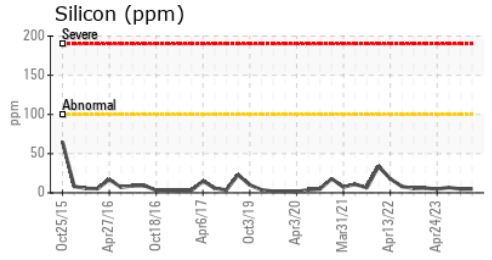
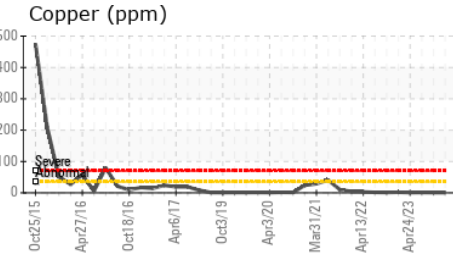
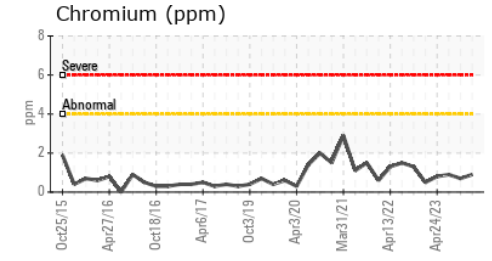
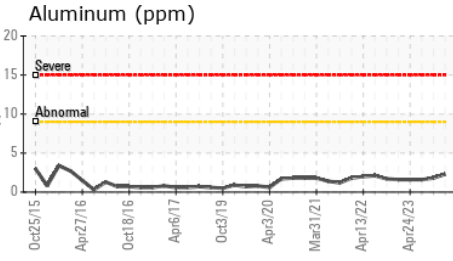
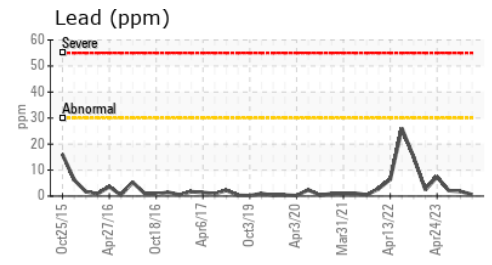
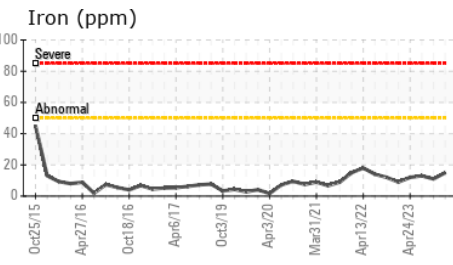
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	▲.2%	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	14.8	14.9	15.3

GRAPHS



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0891082 **Received** : 22 Jan 2024
Lab Number : 02610188 **Diagnosed** : 23 Jan 2024
Unique Number : 5711274 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol, KF, Visual)

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

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.