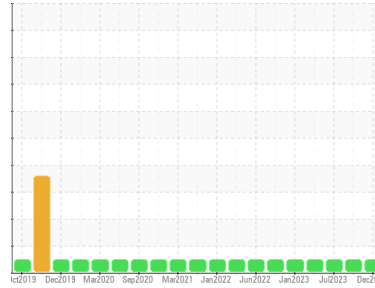




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
Grande West Vicinity 1845

Component
Natural Gas Engine

Fluid
VALVOLINE PREMIUM BLUE 9200 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0878018	WC0849772	WC0830345
Sample Date	Client Info		15 Dec 2023	04 Oct 2023	10 Jul 2023
Machine Age	kms	Client Info	195198	207954	192209
Oil Age	kms	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>50	12	10	11
Chromium	ppm	ASTM D5185(m)	>4	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>9	2	2	2
Lead	ppm	ASTM D5185(m)	>30	<1	0	0
Copper	ppm	ASTM D5185(m)	>35	2	7	4
Tin	ppm	ASTM D5185(m)	>4	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)		9	7	6
Barium	ppm	ASTM D5185(m)		<1	<1	0
Molybdenum	ppm	ASTM D5185(m)		53	53	51
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)		870	871	881
Calcium	ppm	ASTM D5185(m)		1274	1273	1266
Phosphorus	ppm	ASTM D5185(m)		743	742	758
Zinc	ppm	ASTM D5185(m)		910	916	884
Sulfur	ppm	ASTM D5185(m)		1996	1946	1917
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>+100	12	8	6
Sodium	ppm	ASTM D5185(m)		7	5	6
Potassium	ppm	ASTM D5185(m)	>20	2	<1	1

INFRA-RED

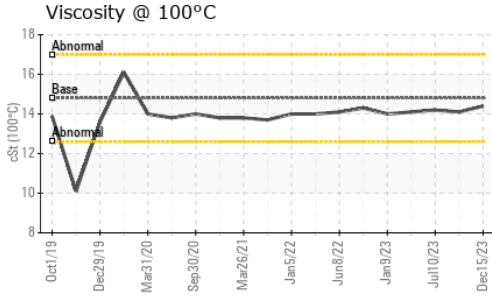
	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*		0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	15.0	13.4	14.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.4	27.7	28.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	23.4	26.4	27.1



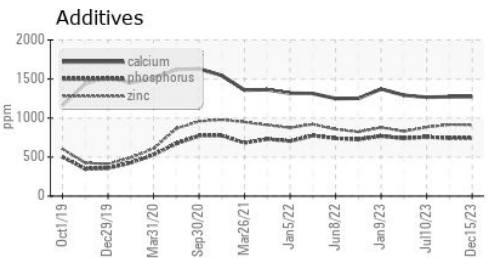
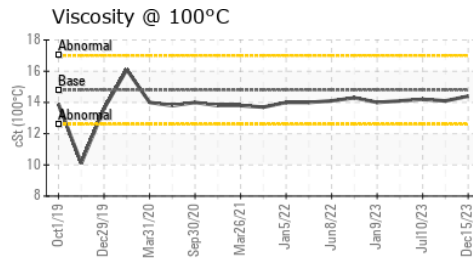
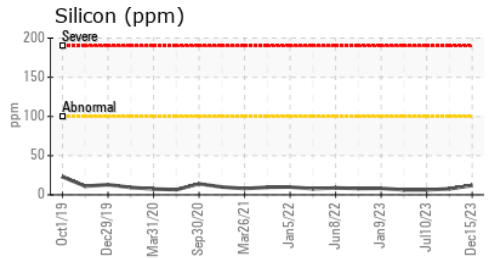
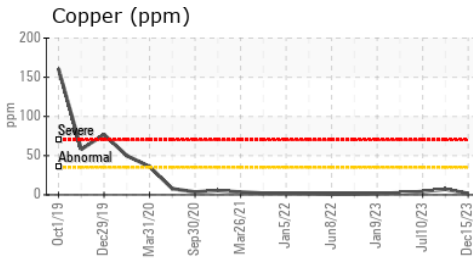
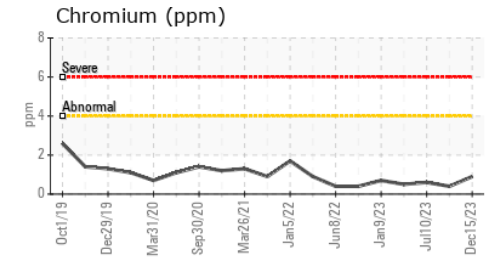
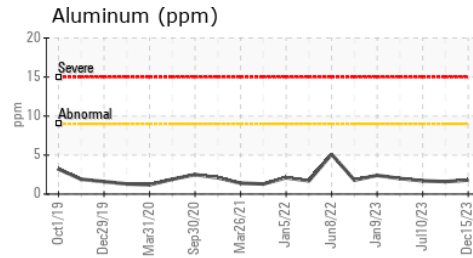
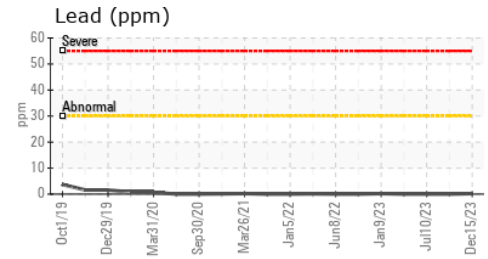
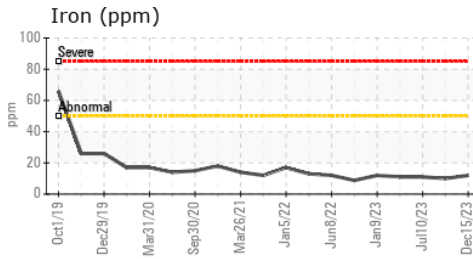
OIL ANALYSIS REPORT



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	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	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	14.4	14.1	14.2

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0878018 **Received** : 19 Dec 2023
Lab Number : **02604016** **Diagnosed** : 19 Dec 2023
Unique Number : 5697101 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: Visual)

CITY OF HAMILTON
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 MOUNT HOPE, ON
 CA L0R 1W0
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 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.