

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



DIAGNOSIS

Contamination

Fluid Condition

Wear

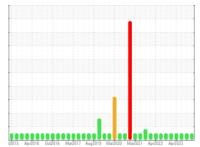
oil.

Recommendation

Area [1496953] **NEW FLYER 1430**

Component Natural Gas Engine

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





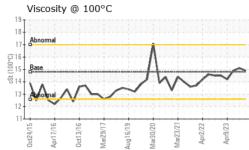
SAMPLE INFORMATION method Resample at the next service interval to monitor. All component wear rates are normal. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the

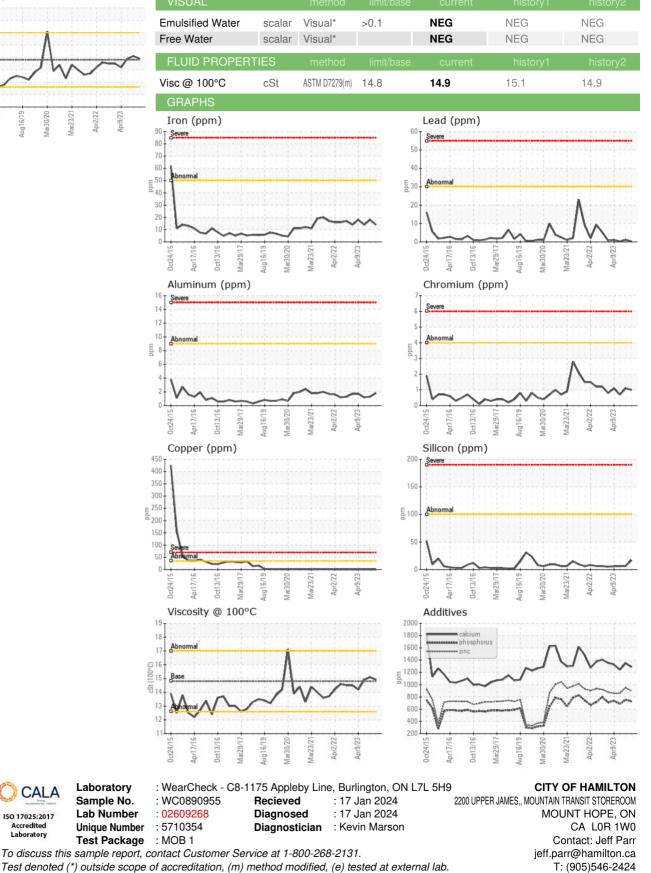
The condition of the oil is acceptable for the time in service.

Sample Number		Client Info		WC0890955	WC0849905	WC0811604
Sample Date		Client Info		10 Jan 2024	02 Oct 2023	04 Jul 2023
Machine Age	kms	Client Info		548308	0	508517
Oil Age	kms	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	١	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	14	18	14
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	<1	0
Aluminum	ppm	ASTM D5185(m)	>9	2	1	1
Lead	ppm	ASTM D5185(m)	>30	<1	1	<1
Copper	ppm	ASTM D5185(m)	>35	<1	<1	<1
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
			Prest la reserve		1 C	le la tanan 0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	limit/base	6	history1 7	5
	ppm ppm		limit/base			
Boron		ASTM D5185(m)	limit/base	6	7	5
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	IImit/base	6 0	7 <1	5 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		6 0 55	7 <1 57	5 0 52
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		6 0 55 0	7 <1 57 0	5 0 52 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		6 0 55 0 816	7 <1 57 0 891	5 0 52 <1 801
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		6 0 55 0 816 1289	7 <1 57 0 891 1347	5 0 52 <1 801 1244
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		6 0 55 0 816 1289 725	7 <1 57 0 891 1347 754	5 0 52 <1 801 1244 685
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		6 0 55 0 816 1289 725 896	7 <1 57 0 891 1347 754 949	5 0 52 <1 801 1244 685 860
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	6 0 55 0 816 1289 725 896 2087	7 <1 57 0 891 1347 754 949 2007	5 0 52 <1 801 1244 685 860 1871
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		6 0 55 0 816 1289 725 896 2087 <1	7 <1 57 0 891 1347 754 949 2007 <1	5 0 52 <1 801 1244 685 860 1871 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	6 0 55 0 816 1289 725 896 2087 <1 current	7 <1 57 0 891 1347 754 949 2007 <1 history1	5 0 52 <1 801 1244 685 860 1871 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >+100	6 0 55 0 816 1289 725 896 2087 <1 2087 <1	7 <1 57 0 891 1347 754 949 2007 <1 <u>history1</u> 6	5 0 52 <1 801 1244 685 860 1871 <1 <i>history2</i> 6
Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >+100	6 0 55 0 816 1289 725 896 2087 <1 2087 <1 17 8	7 <1 57 0 891 1347 754 949 2007 <1 2007 <1 history1 6 5	5 0 52 <1 801 1244 685 860 1871 <1 *1 history2 6 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >+100 >20	6 0 555 0 816 1289 725 896 2087 <1 2087 <1 17 8 7	7 <1 57 0 891 1347 754 949 2007 <1 history1 6 5 5 <1	5 0 52 <1 801 1244 685 860 1871 <1 history2 6 6 6 6 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >+100 >20 limit/base	6 0 55 0 816 1289 725 896 2087 <1 2087 <1 17 896 2087 <1 17 8 7 0 00000000000000000000000000000	7 <1 57 0 891 1347 754 949 2007 <1 2007 <1 history1 6 5 <1 history1	5 0 52 <1 801 1244 685 860 1871 <1 * history2 6 6 6 <1 *
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >+100 >20 limit/base	6 0 55 0 816 1289 725 896 2087 <1 2087 <1 2087 <1 17 896 2087 <1 17 0	7 <1 57 0 891 1347 754 949 2007 <1 2007 <1 <i>history1</i> 6 5 <1 <i>history1</i> 0	5 0 52 <1 801 1244 685 860 1871 <1 history2 6 6 6 6 <1 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >+100 >20 limit/base	6 0 55 0 816 1289 725 896 2087 <1 2087 <1 17 8 7 2087 <1 0 0 13.6	7 <1 57 0 891 1347 754 949 2007 <1 history1 6 5 <1 history1 0 13.0	5 0 52 <1 801 1244 685 860 1871 <1 history2 6 6 6 6 <1 history2 0 12.7



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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.

CALA

ISO 17025:2017 Accredited Laboratory

Laboratory

Sample No.

Lab Number

F: (905)679-4502