

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **2221** Component **Natural Gas Engine** Fluid **VALVOLINE PREMIUM BLUE 9200 15W40 (--- GAL)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

Metal levels are typical for a new component breaking in.

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 INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0917631	WC0891108	WC0890960
Sample Date		Client Info		02 Apr 2024	14 Feb 2024	09 Jan 2024
Machine Age	kms	Client Info		70341	60000	51635
Oil Age	kms	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	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	7	7	8
Chromium	ppm	ASTM D5185(m)	>4	0	<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	0	<1	<1
Copper	ppm	ASTM D5185(m)	>35	<1	1	1
Tin	ppm	ASTM D5185(m)	>4	0	<1	<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
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base	current 14	history1 11	history2 11
	ppm ppm		limit/base			
Boron		ASTM D5185(m)	limit/base	14	11	11
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	14 0	11 0	11 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	14 0 53	11 0 52	11 0 52
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	14 0 53 <1	11 0 52 0	11 0 52 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	14 0 53 <1 792	11 0 52 0 746	11 0 52 0 739
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	14 0 53 <1 792 1215	11 0 52 0 746 1232	11 0 52 0 739 1210
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)	limit/base	14 0 53 <1 792 1215 625	11 0 52 0 746 1232 645	11 0 52 0 739 1210 621
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)	limit/base	14 0 53 <1 792 1215 625 833	11 0 52 0 746 1232 645 844	11 0 52 0 739 1210 621 843
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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)	limit/base	14 0 53 <1 792 1215 625 833 1960	11 0 52 0 746 1232 645 844 2053	11 0 52 0 739 1210 621 843 2023
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	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)		14 0 53 <1 792 1215 625 833 1960 <1	11 0 52 0 746 1232 645 844 2053 <1	11 0 52 0 739 1210 621 843 2023 <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	14 0 53 <1 792 1215 625 833 1960 <1 current	11 0 52 0 746 1232 645 844 2053 <1 history1	11 0 52 0 739 1210 621 843 2023 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm 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) method ASTM D5185(m)	limit/base	14 0 53 <1 792 1215 625 833 1960 <1 current 2	11 0 52 0 746 1232 645 844 2053 <1 history1 3	11 0 52 0 739 1210 621 843 2023 <1 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >+100	14 0 53 <1 792 1215 625 833 1960 <1 current 2 3	11 0 52 0 746 1232 645 844 2053 <1 history1 3 2	11 0 52 0 739 1210 621 843 2023 <1 ×1 history2 5 3
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)	<pre>limit/base >+100 >20</pre>	14 0 53 <1 792 1215 625 833 1960 <1 current 2 3 <1 current	11 0 52 0 746 1232 645 844 2053 <1 history1 3 2 <1	11 0 52 0 739 1210 621 843 2023 <1 bistory2 5 3 0
Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >+100 >20 limit/base	14 0 53 <1 792 1215 625 833 1960 <1 current 2 3 <1 current 0	11 0 52 0 746 1232 645 844 2053 <1 history1 3 2 <1 history1 0	11 0 52 0 739 1210 621 843 2023 <1 history2 5 3 0 history2 0
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	14 0 53 <1 792 1215 625 833 1960 <1 current 2 3 <1 current	11 0 52 0 746 1232 645 844 2053 <1 history1 3 2 <1 history1	11 0 52 0 739 1210 621 843 2023 <1 bistory2 5 3 0 0 bistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624*	Imit/base >+100 >20 Imit/base >20 S20 S20 S20	14 0 53 <1 792 1215 625 833 1960 <1 current 2 3 <1 current 0 11.5 21.8	11 0 52 0 746 1232 645 844 2053 <1 history1 3 2 <1 history1 0 11.7 21.6	11 0 52 0 739 1210 621 843 2023 <1 history2 5 3 0 history2 0 12.2 22.3
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	14 0 53 <1 792 1215 625 833 1960 <1 <u>current</u> 2 3 <1 <u>current</u> 0 11.5	11 0 52 0 746 1232 645 844 2053 <1 history1 3 2 <1 history1 0 11.7	11 0 52 0 739 1210 621 843 2023 <1 history2 5 3 0 history2 0 history2 0 12.2



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Sdb 2

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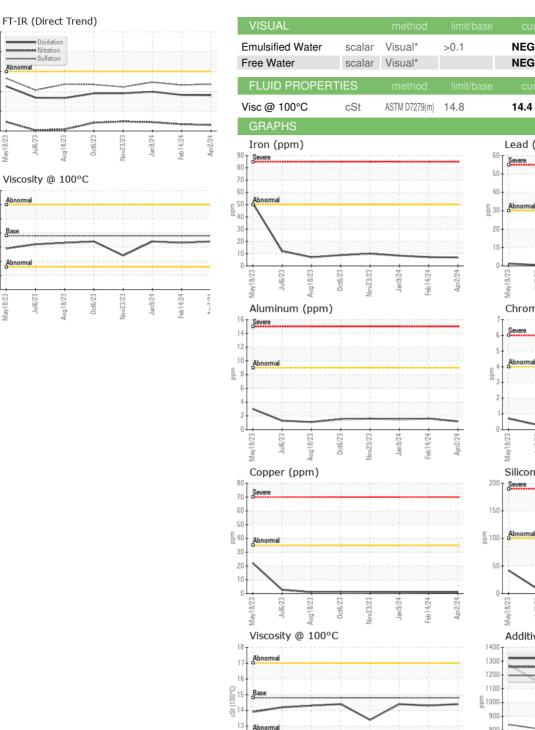
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OIL ANALYSIS REPORT

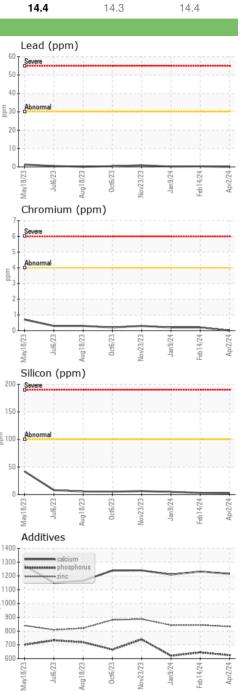


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May18/23

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NEG

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Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **CITY OF HAMILTON** CALA 2200 UPPER JAMES,, MOUNTAIN TRANSIT STOREROOM Sample No. : WC0917631 Received : 09 Apr 2024 Lab Number : 02627656 Tested : 09 Apr 2024 MOUNT HOPE, ON ISO 17025:2017 Accredited Unique Number : 5760788 Diagnosed : 09 Apr 2024 - Wes Davis CA LOR 1W0 Laboratory Test Package : MOB 1 Contact: Cliff Bird To discuss this sample report, contact Customer Service at 1-800-268-2131. cliff.bird@hamilton.ca Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: Validity of results and interpretation are based on the sample and information as supplied. F: (905)679-4502

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Feb14/24

Jan 9/24

Apr2/24

Aug 18/23

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Contact/Location: Cliff Bird - HAMHAM

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