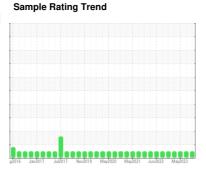


# **OIL ANALYSIS REPORT**

# Area [1494767] **NOVA BUS 1519**

**Natural Gas Engine** 

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





### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

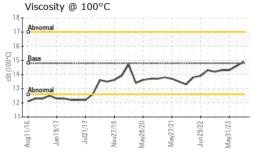
### **Fluid Condition**

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

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0878130	WC0849948	WC0811574
Sample Date		Client Info		06 Dec 2023	30 Aug 2023	31 May 2023
Machine Age	kms	Client Info		455534	436037	418152
Oil Age	kms	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	J	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
	222		>50	14	17	22
Iron	ppm	ASTM D5185(m)		2	17	
Chromium	ppm	ASTM D5185(m)	>4			<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	<1	<1
Silver	ppm	ASTM D5185(m)	>3	<1	0	0
Aluminum	ppm	ASTM D5185(m)		1	2	2
Lead	ppm	ASTM D5185(m)	>30	1	2	1
Copper	ppm	ASTM D5185(m)		<1	2	5
Tin	ppm	ASTM D5185(m)	>4	<1	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
Boron	ppm	ASTM D5185(m)		20	8	21
Barium	ppm	ASTM D5185(m)		<1	<1	4
Molybdenum	ppm	ASTM D5185(m)		59	55	48
Manganese	ppm	ASTM D5185(m)		<1	2	8
Magnesium	ppm	ASTM D5185(m)		913	862	784
Calcium	ppm	ASTM D5185(m)		1373	1282	1215
Phosphorus	ppm	ASTM D5185(m)		770	717	741
Zinc	ppm	ASTM D5185(m)		976	894	794
Sulfur	ppm	ASTM D5185(m)				1000
	PPIII	A3 1 W D3 103(111)		2056	1934	1908
Lithium	ppm	ASTM D5185(m)		2056 <1	1934	<1
Lithium CONTAMINANTS	ppm	. ,	limit/base			
	ppm	ASTM D5185(m)	limit/base >+100	<1	<1	<1
CONTAMINANTS	ppm	ASTM D5185(m) method		<1 current	<1 history1	<1 history2
CONTAMINANTS Silicon	ppm	ASTM D5185(m)  method  ASTM D5185(m)		<1 current	<1 history1	<1 history2
CONTAMINANTS Silicon Sodium	ppm ppm ppm	ASTM D5185(m)  method  ASTM D5185(m)  ASTM D5185(m)	>+100	<1 current	<1 history1 14 6	<1 history2 48 22
CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm	ASTM D5185(m)  method  ASTM D5185(m)  ASTM D5185(m)  ASTM D5185(m)	>+100 >20	current 11 4 0 current	<1 history1 14 6 <1	<1 history2 48 22 2
CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm	ASTM D5185(m)  method  ASTM D5185(m)  ASTM D5185(m)  ASTM D5185(m)  method	>+100 >20 limit/base	current 11 4 0 current	<1 history1 14 6 <1 history1 0	history2 48 22 2 history2 0
CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm	ASTM D5185(m)  method  ASTM D5185(m)  ASTM D5185(m)  ASTM D5185(m)  method  ASTM D7844*	>+100 >20	current 11 4 0 current	<1 history1  14 6 <1 history1	<1 history2 48 22 2 history2
CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm Abs/cm	ASTM D5185(m)  method  ASTM D5185(m)  ASTM D5185(m)  ASTM D5185(m)  method  ASTM D7844*  ASTM D7624*	>+100 >20 limit/base >20	<1 current 11 4 0 current 0 11.3	<1 history1 14 6 <1 history1 0 11.7	<1 history2 48 22 2 history2 0 9.8



## **OIL ANALYSIS REPORT**



VISUAL		method	limit/base	current	history1	histo
Emulsified Water Free Water	scalar		>0.1	NEG NEG	NEG NEG	NEG NEG
FLUID PROPER	TIES	method	limit/base	current	history1	histo
/isc @ 100°C	cSt	ASTM D7279(m	14.8	14.9	14.6	14.3
GRAPHS						
Iron (ppm)				Lead (ppm)		
			5(	Severe		
			40	)		
Abnormal			E 31	Abnormal		
+			20	)		
		~~				
Jan 19/17	8/20	1/21	1/23	Jan 19/17	8/20	Jun29/22
4 , 2	May28/20	May27/21 Jun29/22	May31/23	4	Nov27/19 May28/20	Jun29/22
Aluminum (ppm)				Chromium (p	opm)	
+				Severe		
Abnormal				Abnormal		
+			m dd.			
				1::::::::::::::::::::::::::::::::::::::		Λ
\		~~	~		~~^	1
Jan19/17	May28/20	May27/21-	May31/23	Aug11/16 Jan19/17	May28/20	Jun29/22
	May	May Jun,	May			Jun
Copper (ppm)			200	Silicon (ppm)		
1			150			
			툂100	Abnormal		
Severe			50			
Abnormal						~_
Aug11/16 Jan19/17 Jul21/17		May27/21 Jun29/22	May31/23	Aug11/16 Jan19/17 Jul21/17	Nov27/19 May28/20	Jun29/22
Viscosity @ 100°0		Σ η	M	₹ 5 5 Additives	M Ma	
Ahnormal			1800	] i		
Automa			1600	phosphor	rus 🔨	^
			1200 E 1000		V	· \
Base	1	~	E1000		· /~	~~
Abnormal			600	-	1 /	~~~
			400		V	
Jan 19/17	May28/20	May27/21 Jun29/22	May31/23	Aug11/16 Jan19/17	Nov27/19 May28/20	Jun29/22



**CALA** ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5694840 Test Package : MOB 1

: WC0878130 : 02601755

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received : 08 Dec 2023 Diagnosed : 08 Dec 2023

Diagnostician : Wes Davis

**CITY OF HAMILTON** 2200 UPPER JAMES,, MOUNTAIN TRANSIT STOREROOM MOUNT HOPE, ON

CA LOR 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.