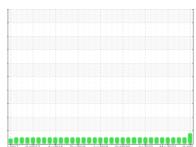


OIL ANALYSIS REPORT

Sample Rating Trend







Area [4842] Machine Id NOVA 1602

Component Rear Diesel Engine

Fluid

VALVOLINE 15W40 (26 LTR)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

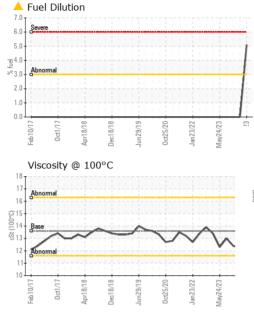
Fluid Condition

The oil is no longer serviceable due to the presence of contaminants.

	52017 0ct2017 Apr2018 Dec2018 Jun2019 0ct2020 Jun2022 May2022 Oct20:											
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2						
Sample Number		Client Info		WC0858055	WC0843572	WC0828576						
Sample Date		Client Info		12 Oct 2023	13 Sep 2023	07 Aug 2023						
Machine Age	kms	Client Info		531024	0	512757						
Oil Age	kms	Client Info		0	0	0						
Oil Changed		Client Info		Changed	Changed	N/A						
Sample Status				ABNORMAL	NORMAL	NORMAL						
CONTAMINATION	ONTAMINATION		limit/base	current	history1	history2						
Glycol		WC Method		NEG	NEG	NEG						
WEAR METALS		method	limit/base	current	history1	history2						
Iron	ppm	ASTM D5185(m)	>75	10	10	9						
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	<1						
Nickel	ppm	ASTM D5185(m)	>4	0	0	0						
Titanium	ppm	ASTM D5185(m)	>2	0	0	0						
Silver	ppm	ASTM D5185(m)	>2	<1	0	0						
Aluminum	ppm	ASTM D5185(m)	>15	1	1	2						
Lead	ppm	ASTM D5185(m)	>25	0	<1	0						
Copper	ppm	ASTM D5185(m)	>100	1	2	2						
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						
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base	current 10	history1	history2 28						
	ppm ppm	ASTM D5185(m)										
Boron		ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	39 1 49	10	13 <1 15	28						
Boron Barium	ppm ppm	ASTM D5185(m) ASTM D5185(m)	39 1 49	10 <1	13 <1	28 0 38 0						
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	39 1 49 1 616	10 <1 8 0 33	13 <1 15 0 45	28 0 38 0 153						
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554	10 <1 8 0 33 2162	13 <1 15	28 0 38 0 153 2004						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554 899	10 <1 8 0 33 2162 792	13 <1 15 0 45 2144 812	28 0 38 0 153 2004 929						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554 899 1069	10 <1 8 0 33 2162 792 922	13 <1 15 0 45 2144 812 982	28 0 38 0 153 2004 929 1063						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624	10 <1 8 0 33 2162 792 922 2823	13 <1 15 0 45 2144 812 982 2737	28 0 38 0 153 2004 929 1063 2871						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624	10 <1 8 0 33 2162 792 922	13 <1 15 0 45 2144 812 982	28 0 38 0 153 2004 929 1063						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624	10 <1 8 0 33 2162 792 922 2823	13 <1 15 0 45 2144 812 982 2737	28 0 38 0 153 2004 929 1063 2871						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624	10 <1 8 0 33 2162 792 922 2823 <1	13	28 0 38 0 153 2004 929 1063 2871 <1						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624	10 <1 8 0 33 2162 792 922 2823 <1 current	13 <1 15 0 45 2144 812 982 2737 <1 history1	28 0 38 0 153 2004 929 1063 2871 <1						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) method ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624	10 <1 8 0 33 2162 792 922 2823 <1 current	13	28 0 38 0 153 2004 929 1063 2871 <1 history2						
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)	39 1 49 1 616 1554 899 1069 2624 limit/base >25	10 <1 8 0 33 2162 792 922 2823 <1 current 4	13 <1 15 0 45 2144 812 982 2737 <1 history1 4 2	28 0 38 0 153 2004 929 1063 2871 <1 history2 4						
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)	39 1 49 1 616 1554 899 1069 2624 limit/base >25	10 <1 8 0 33 2162 792 922 2823 <1 current 4 2 0	13 <1 15 0 45 2144 812 982 2737 <1 history1 4 2 <1	28 0 38 0 153 2004 929 1063 2871 <1 history2 4 2						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624 limit/base >25 >20 >3.0	10 <1 8 0 33 2162 792 922 2823 <1 current 4 2 0 5.1	13 <1 15 0 45 2144 812 982 2737 <1 history1 4 2 <1 <1.0	28 0 38 0 153 2004 929 1063 2871 <1 history2 4 2 2 <1.0						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	39 1 49 1 616 1554 899 1069 2624 limit/base >25 >20 >3.0	10 <1 8 0 33 2162 792 922 2823 <1 current 4 2 0 ▲ 5.1	13 <1 15 0 45 2144 812 982 2737 <1 history1 4 2 <1 <1.0 history1	28 0 38 0 153 2004 929 1063 2871 <1 history2 4 2 2 <1.0 history2						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* method ASTM D78444	39 1 49 1 616 1554 899 1069 2624 limit/base >25 >20 >3.0 limit/base >6	10 <1 8 0 33 2162 792 922 2823 <1 current 4 2 0 ▲ 5.1 current 0.1	13 <1 15 0 45 2144 812 982 2737 <1 history1 4 2 <1 <1.0 history1 0.1	28 0 38 0 153 2004 929 1063 2871 <1 history2 4 2 2 <1.0 history2 0.1						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7844* ASTM D7624*	39 1 49 1 616 1554 899 1069 2624 limit/base >25 >20 >3.0 limit/base >6 >20	10 <1 8 0 33 2162 792 922 2823 <1 current 4 2 0 ▲ 5.1 current 0.1 8.3	13 <1 15 0 45 2144 812 982 2737 <1 history1 4 2 <1 <1.0 history1 0.1 9.2	28 0 38 0 153 2004 929 1063 2871 <1 history2 4 2 2 <1.0 history2 0.1 9.6						



OIL ANALYSIS REPORT



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CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5668784

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0858055 : 02591705

Received Diagnosed

: 25 Oct 2023 : 27 Oct 2023

Diagnostician : Wes Davis Test Package : MOB 1 (Additional Tests: FUELDILUTION, PercentFuel)

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.

MVT Canadian Bus 133 Welham Road Barrie, ON

CA L4N 8Y3 Contact: Frank Mastromarco frank.mastromarco@mvtransit.com

T: (709)792-5033

F: