

### **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# NO UNIT WC0937192

Natural Gas Engine

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

#### DIAGNOSIS

#### Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

All component wear rates are normal.

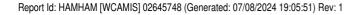
#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. 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		WC0937192			
Sample Date		Client Info		04 Jul 2024			
Machine Age	hrs	Client Info		04 001 2024			
Oil Age	hrs	Client Info		0			
Oil Changed		Client Info		N/A			
Sample Status				NORMAL			
CONTAMINATION	N	method	limit/base	current	history1	history2	
Water		WC Method	>0.1	NEG			
WEAR METALS		method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>50	19			
Chromium	ppm	ASTM D5185(m)		1			
Nickel	ppm	ASTM D5185(m)	>2	0			
Titanium	ppm	ASTM D5185(m)	~ _	0			
Silver	ppm	ASTM D5185(m)	>3	۰ <1			
Aluminum	ppm	ASTM D5185(m)		1			
Lead	ppm	ASTM D5185(m)	>30	5			
Copper	ppm	ASTM D5185(m)		1			
Tin	ppm	ASTM D5185(m)	>4	0			
Antimony	ppm	ASTM D5185(m)	27	0			
Vanadium	ppm	ASTM D5185(m)		0			
Beryllium	ppm	ASTM D5185(m)		0			
Cadmium	ppm	ASTM D5185(m)		0			
ADDITIVES	ppm	method	limit/base		history	history2	
			IIIIII/Dase	current	history1	TIIStOL 22	
Boron	ppm	ASTM D5185(m)		1			
Barium	ppm	ASTM D5185(m)		0			
Molybdenum							
-	ppm	ASTM D5185(m)		60			
Manganese	ppm ppm	ASTM D5185(m)		<1			
Manganese Magnesium	ppm ppm	ASTM D5185(m) ASTM D5185(m)		<1 977			
Manganese Magnesium Calcium	ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		<1 977 1051			
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		<1 977 1051 1017			
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		<1 977 1051 1017 1242			
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		<1 977 1051 1017 1242 2474		  	
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		<1 977 1051 1017 1242		  	
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)	limit/base	<1 977 1051 1017 1242 2474		  	
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)	limit/base >+100	<1 977 1051 1017 1242 2474 <1		    	
Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	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)		<1 977 1051 1017 1242 2474 <1 current	     history1	     history2	
Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	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)		<1 977 1051 1017 1242 2474 <1 current 4	     history1	    history2	
Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	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) <b>method</b> ASTM D5185(m) ASTM D5185(m)	>+100	<1 977 1051 1017 1242 2474 <1 current 4 2	     history1	     history2	
Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	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)	>+100 >20	<1 977 1051 1017 1242 2474 <1 current 4 2 0	     history1  	    history2  	
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)	>+100 >20	<1 977 1051 1017 1242 2474 <1 current 4 2 0 current	     history1   history1	    history2    history2	
Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185(m) ASTM D5185(m)	>+100 >20 limit/base	<1 977 1051 1017 1242 2474 <1 current 4 2 0 current 1.2	     history1   history1 	    history2   history2	
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)	>+100 >20 limit/base >20	<1 977 1051 1017 1242 2474 <1 current 4 2 0 current 1.2 10.7 23.4	      history1   history1  	     history2  history2	



Contact/Location: Jeff Parr - HAMHAM Page 1 of 2



35 30

40% aps/cm 20

15 10

## **OIL ANALYSIS REPORT**

FT-IR (Direct T	rend)		VISUAL		method	limit/base	current	history1	history2
Oxidation			White Metal	scalar	Visual*	NONE	NONE		
Sulfation			Yellow Metal	scalar	Visual*	NONE	NONE		
Abnormal			Precipitate	scalar	Visual*	NONE	NONE		
			Silt	scalar	Visual*	NONE	NONE		
			Debris	scalar	Visual*	NONE	NONE		
			Sand/Dirt	scalar	Visual*	NONE	NONE		
Jul4/24		Jul4,24 -	Appearance	scalar	Visual*	NORML	NORML		
Juk		Juk	Odor	scalar	Visual*	NORML	NORML		
			Emulsified Water	scalar	Visual*	>0.1	NEG		
Viscosity @ 40	°С		Free Water	scalar	Visual*		NEG		
]=			FLUID PROPERT	IES	method	limit/base	current	history1	history2
Base			Visc @ 40°C	cSt	ASTM D7279(m)	114	98.7		
)+			Visc @ 100°C	cSt	ASTM D7279(m)	14.8	13.4		
Abnormal			Viscosity Index (VI)	Scale	ASTM D2270*	133	135		
			GRAPHS						
Jul4/24		Jul4/24 -	Iron (ppm)				Lead (ppm)		
JL		JL	100 Severe			60	Severe		
Viscosity @ 40	°C		80 - 4 = 60 - Abnormal			40			
Abnormal			Abnormal			M dd	Abnormal		
)			20			20			
) <b>-</b>			0			0			
Base			Jul4/24			Jul4/24	Jul4/24		Jul4/24
1						7			~
Abnomal			Aluminum (ppm) Chromium (ppm)						
			Severa Severa						
Jul4/24		C 11''	10			E.	Abnormal		_
2			E 10 - Abnormal			4.4	- 0		
Additives			5-			2			
calcium	1		0440			24			- 24
) - phosphorus zinc			Jul4/24			Jul4/24	Jul4/24		Jul4/24
) -	)		Copper (ppm)				Silicon (ppm)		
)			<sup>80</sup> Severe			200			
)			60 +			150			
)			E 40 - Abnormal			틆 100	Abnormal		
) ـ		ž	20			50			
Jul4/24		L.M.	0						
			Jul4/24			Jul4/24	Jul4/24		Jul4/24
			Jul			Inc	InL		Jul
			Viscosity @ 100°C				Additives		
			Abnormal			1300	calcium	1	
			2 <sup>16</sup> Base			1200	phosphorus	S	
			000114 Base Abnormal			E 1100	- Litte		
			<sup>13</sup> 12			1100			
							4		4
			Jul4/24			Jul4/24	Jul4/24		Jul4/24
			-			-			,
							5110		
	🔘 CALA	Laboratory Sample No.	: WearCheck - C8-1175 : WC0937192	Appleby Recei		gton, ON L7L 5 Jul 2024			
	ISO 17025:2017	Lab Number		Teste		3 Jul 2024 3 Jul 2024	2200 UPPE	R JAMES,, MOUNTAIN T MOL	INT HOPE, ON
	Accredited	Unique Number				Jul 2024 - Kevi	n Marson		CA LOR 1W0
	Laboratory		· MOB 1 (Additional Te					Co	ntact: Jeff Parr

Test Package : MOB 1 (Additional Tests: KV40, VI, Visual) 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.

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Contact/Location: Jeff Parr - HAMHAM

Contact: Jeff Parr

F: (905)679-4502

jeff.parr@hamilton.ca T: (905)546-2424