

OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id 8118822 Component

Diesel Engine Fluid VALVOLINE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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

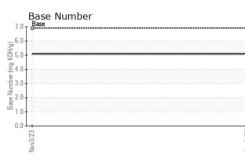
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

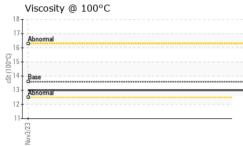
SAMPLE INFORM	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Sample Number		Client Info		IL0033235		
Sample Date		Client Info		03 Nov 2023		
Machine Age	mls	Client Info		142550		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	14		
Chromium	ppm	ASTM D5185m	>20	1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	3		
Lead	ppm	ASTM D5185m	>40	1		
Copper	ppm	ASTM D5185m	>330	1		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 39	current 59	history1	history2
	ppm ppm					· · · · ·
Boron		ASTM D5185m	39	59		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	39 1	59 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49	59 0 73		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1	59 0 73 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616	59 0 73 <1 584		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554	59 0 73 <1 584 1275		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899	59 0 73 <1 584 1275 800	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069	59 0 73 <1 584 1275 800 1027	 	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069 2624	59 0 73 <1 584 1275 800 1027 2475		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 limit/base	59 0 73 <1 584 1275 800 1027 2475 current	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 limit/base	59 0 73 <1 584 1275 800 1027 2475 2475 current 7	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 limit/base >25	59 0 73 <1 584 1275 800 1027 2475 2475 current 7 2	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 <i>limit/base</i> >25 >20	59 0 73 <1 584 1275 800 1027 2475 <u>current</u> 7 2 3	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 2624 2624 20 20 20 20 20	59 0 73 <1 584 1275 800 1027 2475 current 7 2 2 3 3 current	 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 limit/base >25 >20 limit/base	59 0 73 <1 584 1275 800 1027 2475 <i>current</i> 7 2 3 <i>current</i> 0.5	 history1 history1 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 ////////////////////////////////////	59 0 73 <1 584 1275 800 1027 2475 <u>current</u> 7 2 3 <u>current</u> 0.5 10.1	 history1 history1 	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	39 1 49 1 616 1554 899 1069 2624 imit/base >25 imit/base >20 imit/base >3 >20	59 0 73 <1 584 1275 800 1027 2475 current 7 2 3 current 0.5 10.1 24.0	 history1 history1 history1	 history2 history2 history2



OIL ANALYSIS REPORT

VISUAL





White Metal Yellow Metal Precipitate	scalar scalar scalar	*Visual *Visual	NONE	NONE NONE		
Precipitate	scalar	*\/;ouol	NONE			
	000.00	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPER	TIES	method	limit/base	current	historv1	history2
1						
Non-ferrous Metal			Nov3/23			
	2			Base Number		
				T	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Abnormal			6.0 ,p	1		
			1 5.0 X KOH	+		
				+		
			4 3.0			
13 - Abnormal			ස් 2.0	+		
12						
11				L		
0v3/2;			0v3/2;	ov3/2.		
: WearCheck USA - { : IL0033235 : 06013015	Received Diagnos	d : 20 ed : 21	ry, NC 27513 Nov 2023 Nov 2023		5951 (L	A IDEALEAS DRIENT ROAI TAMPA, F IS 33610-956 act: Russ Coo
	Sand/Dirt Appearance Odor Emulsified Water Free Water Fluid PROPER Visc @ 100°C GRAPHS Ferrous Alloys ¹⁴ ¹⁴ ¹⁴ ¹⁶ ¹⁶ ¹⁶ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁷ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁷ ¹⁶ ¹⁷ ¹⁶ ¹⁷ ¹⁶ ¹⁷ ¹⁸ ¹⁷ ¹⁸ ¹⁷ ¹⁹ ¹⁹ ¹⁹ ¹⁹ ¹⁹ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹¹ ¹⁰ ¹¹ ¹⁰ ¹¹ ¹⁰ ¹⁰ ¹⁰ ¹¹ ¹⁰ ¹⁰ ¹¹ ¹⁰ ¹⁰ ¹¹ ¹⁰ ¹⁰ ¹¹ ¹⁰ ¹¹ ¹¹ ¹⁰ ¹⁰ ¹¹	Sand/Dirt scalar Appearance scalar Odor scalar Emulsified Water scalar Free Water scalar Free Water scalar FLUID PROPERTIES Visc @ 100°C cSt GRAPHS Ferrous Alloys ¹⁴ ¹⁴ ¹⁴ ¹⁴ ¹⁵ ¹⁴ ¹⁵ ¹⁶ ¹⁶ ¹⁶ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁷ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁷ ¹⁸ ¹⁷ ¹⁸ ¹⁹ ¹⁹ ¹⁹ ¹⁹ ¹⁰ ¹⁰ ¹⁰ ¹⁰ ¹¹ ¹⁰ ¹¹ ¹⁰ ¹¹ ¹¹ ¹¹ ¹¹ ¹¹ ¹¹ ¹¹ ¹² ¹¹ ¹¹ ¹¹ ¹¹ ¹¹ ¹² ¹¹ ¹¹ ¹² ¹¹ ¹¹ ¹² ¹³ ¹⁴ ¹⁵ ¹⁵ ¹⁵ ¹⁵ ¹⁵ ¹⁶ ¹⁶ ¹⁷ ¹⁶ ¹⁷ ¹⁶ ¹⁷ ¹⁸ ¹⁷ ¹⁸ ¹⁹ ¹⁹ ¹⁹ ¹⁹ ¹⁹ ¹⁰ ¹¹ ¹⁰ ¹⁰ ¹¹ 	Sand/Dirt scalar *Visual Appearance scalar *Visual Emulsified Water scalar *Visual Free Water scalar *Visual Free Water scalar *Visual FLUID PROPERTIES method Visc @ 100°C cSt ASTM D445 GRAPHS Ferrous Alloys Ferrous Alloys Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C C Viscosity @ 100°C C C C C C C C C C C C C C	Sand/Dirt scalar *Visual NONE Appearance scalar *Visual NORML Odor scalar *Visual NORML Emulsified Water scalar *Visual >0.2 Free Water scalar *Visual >0.2 Free Water scalar *Visual FLUID PROPERTIES method imit/base Visc @ 100°C cSt ASTM D445 13.6 GRAPHS Ferrous Alloys Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C WearCheck USA - 501 Madison Ave., Cary, NC 27513 ELU033235 Received : 20 Nov 2023 Diagnosed : 21 Nov 2023	Sand/Dirt scalar Visual NONE NONE Appearance scalar Visual NORML NORML Emulsified Water scalar Visual NORML NORML Emulsified Water scalar Visual NORML NORML Emulsified Water scalar Visual NORML NORML Visc @ 100°C cSt ASTM D445 13.6 13.0 GRAPHS Ferrous Alloys Non-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C	Sand/Dirt scalar Visual NONE NONE Appearance scalar Visual NORML NORML Odor scalar Visual NORML NORML Emulsified Water scalar Visual SO.2 NEG Free Water scalar Visual SO.2 NEG Free Water scalar Visual SO.2 NEG Freu Visual SO.2 NEG FEG Freu Visual SO.2 NEG GRAPHS Ferrous Alloys Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C WescaCheck USA - 501 Madison Ave., Cary, NC 27513 : WearCheck USA - 501 Madison

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