

## WEAR ABNORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL



## [5520DR KINSLEY] Wachine Id VOLVO A40E 13563

Bogie/Center Axle

## VOLVO PREMIUM GEAR OIL 85W-140 GL-5 (--- GAL)

RECOMMENDATION

We suspect abnormal metal contamination may be due to sampling method. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

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Moderate concentration of visible metal present. All component wear rates are normal.

## CONTAMINATION

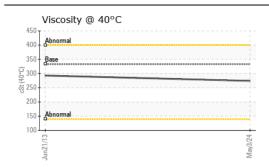
There is no indication of any contamination in the component.

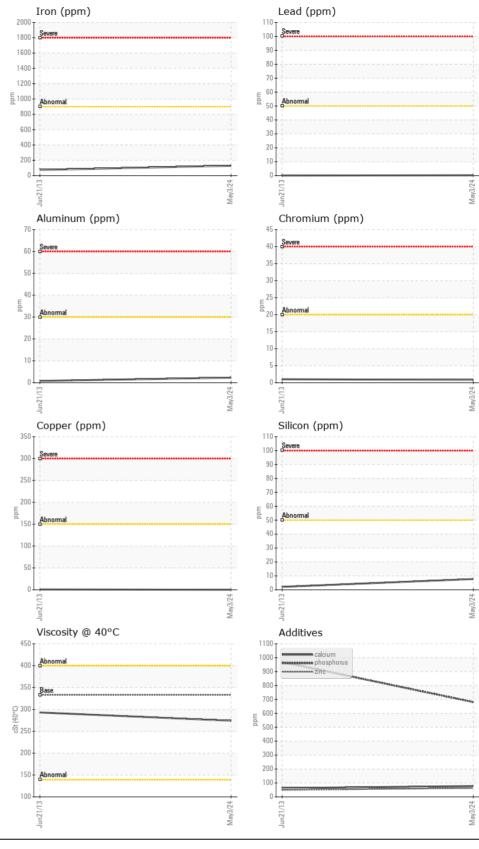
FLUID	CONDITION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP431944	VCP116618	
Sample Date		Client Info		03 May 2024	21 Jun 2013	
Machine Age	hrs	Client Info		13358	2149	
Oil Age	hrs	Client Info		1000	0	
Filter Age	hrs	Client Info		0	0	
Oil Changed		Client Info		Changed	Changed	
Filter Changed		Client Info		N/A	N/A	
Sample Status				ABNORMAL	ABNORMAL	
			000	100	70	
Iron	ppm	ASTM D5185m	>900	129	73	
Chromium	ppm	ASTM D5185m	>20	<1	1	
Nickel	ppm	ASTM D5185m	>10	0	<1	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	0.0	0	0	
Aluminum	ppm	ASTM D5185m	>30	2	<1	
Lead	ppm	ASTM D5185m	>50	<1	0	
Copper	ppm	ASTM D5185m	>150	0	<1	
Tin	ppm	ASTM D5185m	>20	0	0	
Vanadium	ppm	ASTM D5185m		0	0	
White Metal	scalar	*Visual	NONE	A HEAVY	A MODER	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Silicon	ppm	ASTM D5185m	>50	8	2	
Silicon Potassium	ppm ppm	ASTM D5185m ASTM D5185m	>50 >20	8 0	2 3	
				-		
Potassium		ASTM D5185m	>20	0	3	
Potassium Water	ppm	ASTM D5185m WC Method	>20 >0.2	0 NEG	3 NEG	
Potassium Water Silt	ppm scalar	ASTM D5185m WC Method *Visual	>20 >0.2 NONE	0 NEG NONE	3 NEG NONE	
Potassium Water Silt Debris	ppm scalar scalar	ASTM D5185m WC Method *Visual *Visual	>20 >0.2 NONE NONE	0 NEG NONE NONE	3 NEG NONE NONE	
Potassium Water Silt Debris Sand/Dirt	ppm scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual	>20 >0.2 NONE NONE NONE	0 NEG NONE NONE NONE	3 NEG NONE NONE NONE	
Potassium Water Silt Debris Sand/Dirt Appearance	ppm scalar scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual *Visual	>20 >0.2 NONE NONE NONE	0 NEG NONE NONE NONE NORML	3 NEG NONE NONE NONE NORML	   
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm scalar scalar scalar scalar scalar	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual	>20 >0.2 NONE NONE NORML NORML	0 NEG NONE NONE NORML NORML NEG	3 NEG NONE NONE NORML NORML NEG	   
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium	ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >0.2 NONE NONE NORML NORML >0.2	0 NEG NONE NONE NORML NORML NEG	3 NEG NONE NONE NORML NORML NEG	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron	ppm scalar scalar scalar scalar scalar scalar ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >0.2 NONE NONE NORML >0.2	0 NEG NONE NONE NORML NORML NEG <1 58	3 NEG NONE NONE NORML NORML NEG <1 139	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium	ppm scalar scalar scalar scalar scalar scalar ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m	>20 >0.2 NONE NONE NORML NORML >0.2	0 NEG NONE NONE NORML NORML NEG <1 58 <1	3 NEG NONE NONE NORML NORML NEG <1 139 0	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum	ppm scalar scalar scalar scalar scalar scalar ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m	>20 >0.2 NONE NONE NORML >0.2	0 NEG NONE NONE NORML NORML NEG <1 58	3 NEG NONE NONE NORML NORML NEG <1 139 0 2	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.2 NONE NONE NORML >0.2 1111 0.0 0.9 0.0	0 NEG NONE NONE NORML NORML NEG <1 58 <1 58 <1 2 2	3 NEG NONE NONE NORML NORML NEG <1 139 0 2 2	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.2 NONE NONE NORML NORML >0.2 1111 0.0 0.9 0.9 39	0 NEG NONE NONE NORML NORML NEG <1 58 <1 58 <1 2 2 2 12	3 NEG NONE NONE NORML NORML NEG <1 139 0 2 2 2 0	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.2 NONE NONE NORML NORML >0.2 1111 0.0 0.9 0.0 39 93	0 NEG NONE NONE NORML NORML NEG <1 58 <1 58 <1 2 2 2 12 78	3 NEG NONE NONE NORML NORML NEG <1 139 0 2 2 2 0 63	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>111</li> <li>0.0</li> <li>0.9</li> <li>0.0</li> <li>39</li> <li>93</li> <li>920</li> </ul>	0 NEG NONE NONE NORML NORML NEG <1 58 <1 58 <1 2 2 2 12 78 681	3 NEG NONE NONE NORML NORML NEG <1 139 0 2 2 2 0 6 3 969	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>20 >0.2 NONE NONE NORML NORML >0.2 1111 0.0 0.9 0.9 39 93 920 104	0 NEG NONE NONE NORML NORML NEG <1 58 <1 58 <1 2 2 12 78 681 63	3 NEG NONE NONE NORML NORML NEG <1 139 0 2 2 2 0 2 2 0 63 969 49	
Potassium Water Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium Calcium	ppm scalar scalar scalar scalar scalar ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m WC Method *Visual *Visual *Visual *Visual *Visual *Visual ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<ul> <li>&gt;20</li> <li>&gt;0.2</li> <li>NONE</li> <li>NORME</li> <li>NORML</li> <li>&gt;0.2</li> <li>111</li> <li>0.0</li> <li>0.9</li> <li>0.0</li> <li>39</li> <li>93</li> <li>920</li> </ul>	0 NEG NONE NONE NORML NORML NEG <1 58 <1 58 <1 2 2 2 12 78 681	3 NEG NONE NONE NORML NORML NEG <1 139 0 2 2 2 0 6 3 969	

Contact/Location: JOSEPH GLOWACKI - VOLVO0022





**HIGHWAY EQUIPMENT & SUPPLY CO** Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. Received PO BOX 127 : VCP431944 :09 May 2024 Lab Number : 06174265 Tested DRUMS, PA : 10 May 2024 : 13 May 2024 - Angela Borella Unique Number : 11020318 US 18222 Diagnosed Test Package : MOB 1 Contact: JOSEPH GLOWACKI Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. joe@hwyequip.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (570)788-1127 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (570)708-2933

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