

# **OIL ANALYSIS REPORT**

Sample Rating Trend







Diesel Engine Fluid NOT GIVEN (--- GAL)

**VOLVO VNR 4658** 

# DIAGNOSIS

Area [61296]

Component

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is SAE 30 Diesel Engine Oil. Please confirm the oil type and grade, and specify the brand of the oil on your next sample.

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

Fuel content negligible. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

## Fluid Condition

Viscosity of sample indicates oil is within SAE 30 range, advise investigate. 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		WC0831174		
Sample Date		Client Info		19 Aug 2023		
Machine Age	kms	Client Info		107200		
Oil Age	kms	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION	1	method	limit/base	current	history1	history2
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	79		
Chromium	ppm	ASTM D5185(m)	>20	2		
Nickel	ppm	ASTM D5185(m)	>2	2		
Titanium	ppm	ASTM D5185(m)		<1		
Silver	ppm	ASTM D5185(m)	>2	<1		
Aluminum	ppm	ASTM D5185(m)	>25	33		
Lead	ppm	ASTM D5185(m)	>40	7		
Copper	ppm	. ,	>330	133		
Tin	ppm	ASTM D5185(m)	>15	5		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		and the set	Provide Research		In the transmission	la la tana 0
ADDITIVES		method				history2
Boron	ppm	ASTM D5185(m)		19		
Barium	ppm	ASTM D5185(m)		<1		
Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m)		<1 105		
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		<1 105 5		
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		<1 105 5 649	  	  
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		<1 105 5 649 1565	  	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		<1 105 5 649 1565 710	  	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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)		<1 105 5 649 1565 710 805	   	   
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm 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)		<1 105 5 649 1565 710 805 1796	   	    
Barium Molybdenum 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) ASTM D5185(m)		<1 105 5 649 1565 710 805	   	   
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm 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)	limit/base	<1 105 5 649 1565 710 805 1796	   	    
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm 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)	limit/base >25	<1 105 5 649 1565 710 805 1796 <1 current 60		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm 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)		<1 105 5 649 1565 710 805 1796 <1 current	     history1	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm	ASTM D5185(m) ASTM D5185(m)	>25 >20	<1 105 5 649 1565 710 805 1796 <1 current 60 5 79	      history1	      history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	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)	>25	<1 105 5 649 1565 710 805 1796 <1 current 60 5	      history1	      history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185(m) ASTM D5185(m)	>25 >20	<1 105 5 649 1565 710 805 1796 <1 current 60 5 79	     history1	     history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel	ppm	ASTM D5185(m) ASTM D5185(m)	>25 >20 >6.0	<1 105 5 649 1565 710 805 1796 <1  current 60 5 79 0.5	     history1  	     history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185(m) ASTM D5185(m)	>25 >20 >6.0 limit/base	<1 105 5 649 1565 710 805 1796 <1 current 60 5 79 0.5 current	      history1     history1	     history2      history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm   ppm   %	ASTM D5185(m) ASTM D7593*	>25 >20 >6.0 limit/base >3	<1 105 5 649 1565 710 805 1796 <1  current 60 5 79 0.5  current 0.9	      history1    history1 	      history2    history2
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 D7593*	>25 >20 >6.0 limit/base >3 >20	<1 105 5 649 1565 710 805 1796 <1 Current 60 5 79 0.5 Current 0.9 13.3	      history1    history1  	      history2   history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* ASTM D7593*	>25 >20 >6.0 limit/base >3 >20 >30	<1 105 5 649 1565 710 805 1796 <1 Current 60 5 79 0.5 Current 0.9 13.3 28.4	      history1    history1	      history2    history2  history2



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