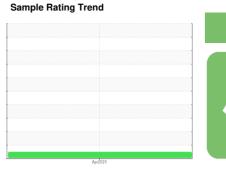


OIL ANALYSIS REPORT

[67386] **VOLVO VNL 4713**

Diesel Engine

DIESEL ENGINE OIL SAE 10W30 (--- GAL)





Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Metal levels are typical for a components first oil change.

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

The condition of the oil is acceptable for the time in

Sample Number					Apr2024		
Sample Number Client Info WC0895343	CAMPLE INFORM	AATION					
Sample Date Client Info 06 Apr 2024	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age mths Client Info 5 Oil Changed Client Info 5 Sample Status NORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG Glycol WC Method NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >100 72 Kickel ppm ASTM D5185(m) >20 2 Nickel ppm ASTM D5185(m) >22 2 Silver ppm ASTM D5185(m) >22 2 Lead ppm ASTM D5185(m) >40 0 Copper ppm ASTM D5185(m) <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>							
Oil Age mths Client Info 5 Oil Changed Client Info N/A Sample Status NORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >100 72 Chromium ppm ASTM D5185(m) >20 2 Nickel ppm ASTM D5185(m) >22 2 Silver ppm ASTM D5185(m) >22 2	•				06 Apr 2024		
Oil Changed Client Info N/A NORMAL NOR	-				_		
CONTAMINATION	-	mths			•		
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG Glycol WC Method NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM DS185(m) >20 2 Chromium ppm ASTM DS185(m) >20 2 Nickel ppm ASTM DS185(m) >2 2 Silver ppm ASTM DS185(m) >4 0 Aluminum ppm ASTM DS185(m) >15 5 <td></td> <td></td> <td>Client Info</td> <td></td> <td></td> <td></td> <td></td>			Client Info				
Water	Sample Status				NORMAL		
WEAR METALS	CONTAMINATION	1	method	limit/base	current	history1	history2
WEAR METALS	Water		WC Method	>0.2	NEG		
Iron	Glycol		WC Method		NEG		
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Chromium	Iron	ppm	ASTM D5185(m)	>100	72		
Nickel	Chromium		. ,	>20	2		
Titanium ppm ASTM D5185(m) < 1 Silver ppm ASTM D5185(m) >2 2 Aluminum ppm ASTM D5185(m) >25 33 Lead ppm ASTM D5185(m) >40 0 Copper ppm ASTM D5185(m) >330 17 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 method limit/base current history1 history2 Boron ppm ASTM D5185(m) 10 <1	Nickel		ASTM D5185(m)	>2	2		
Silver ppm ASTM D5185(m) >2 2 Aluminum ppm ASTM D5185(m) >25 33 Lead ppm ASTM D5185(m) >40 0 Copper ppm ASTM D5185(m) >330 17 Tin ppm ASTM D5185(m) >15 5 Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 10 <1	Titanium		ASTM D5185(m)		<1		
Lead	Silver	ppm	ASTM D5185(m)	>2	2		
Copper ppm ASTM D5185(m) >330 17 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 method limit/base current history1 history2 Boron ppm ASTM D5185(m) 10 -1 Barium ppm ASTM D5185(m) 10 -1 Molybdenum ppm ASTM D5185(m) 10 117 Magnesium ppm ASTM D5185(m) 45 674 Calcium ppm ASTM D5185(m) 3000 1573 </td <td>Aluminum</td> <td>ppm</td> <td>ASTM D5185(m)</td> <td>>25</td> <td>33</td> <td></td> <td></td>	Aluminum	ppm	ASTM D5185(m)	>25	33		
Tin	Lead	ppm	ASTM D5185(m)	>40	0		
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 method limit/base current history1 history2 Boron ppm ASTM D5185(m) 250 33 Barium ppm ASTM D5185(m) 10 117 Molybdenum ppm ASTM D5185(m) 10 117 Manganese ppm ASTM D5185(m) 450 674 Magnesium ppm ASTM D5185(m) 450 674 Phosphorus ppm ASTM D5185(m) 1350 827 Sulfur ppm ASTM D5185(m) 4250 1878	Copper	ppm	ASTM D5185(m)	>330	17		
Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 250 33 Barium ppm ASTM D5185(m) 10 <1 Molybdenum ppm ASTM D5185(m) 100 117 Magnesium ppm ASTM D5185(m) 4 Magnesium ppm ASTM D5185(m) 3000 1573 Calcium ppm ASTM D5185(m) 150 679 Phosphorus ppm ASTM D5185(m) 1350 827 Sulfur ppm ASTM D5185(m) 4250 1878	Tin	ppm	ASTM D5185(m)	>15	5		
Beryllium	Antimony	ppm	ASTM D5185(m)		0		
Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 250 33 Barium ppm ASTM D5185(m) 10 <1	Vanadium	ppm	ASTM D5185(m)		0		
ADDITIVES	Beryllium	ppm	ASTM D5185(m)		0		
Boron ppm ASTM D5185(m) 250 33	Cadmium	ppm	ASTM D5185(m)		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Barium	Boron	ppm	ASTM D5185(m)	250	33		
Molybdenum ppm ASTM D5185(m) 100 117 Manganese ppm ASTM D5185(m) 4 Magnesium ppm ASTM D5185(m) 450 674 Calcium ppm ASTM D5185(m) 3000 1573 Phosphorus ppm ASTM D5185(m) 1150 679 Zinc ppm ASTM D5185(m) 1350 827 Sulfur ppm ASTM D5185(m) 4250 1878 Lithium ppm ASTM D5185(m) 4250 1878 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 57 Sodium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593*	Barium		ASTM D5185(m)	10	<1		
Manganese ppm ASTM D5185(m) 4 Magnesium ppm ASTM D5185(m) 3000 1573 Calcium ppm ASTM D5185(m) 3000 1573 Phosphorus ppm ASTM D5185(m) 1150 679 Zinc ppm ASTM D5185(m) 1350 827 Sulfur ppm ASTM D5185(m) 4250 1878 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 57 Sodium ppm ASTM D5185(m) >20 74 Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D5185(m) >3	Molybdenum		ASTM D5185(m)	100	117		
Magnesium ppm ASTM D5185(m) 450 674 Calcium ppm ASTM D5185(m) 3000 1573 Phosphorus ppm ASTM D5185(m) 1150 679 Zinc ppm ASTM D5185(m) 1350 827 Sulfur ppm ASTM D5185(m) 4250 1878 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 57 Sodium ppm ASTM D5185(m) >20 74 Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base	Manganese	ppm	ASTM D5185(m)		4		
Phosphorus ppm ASTM D5185(m) 1150 679 Zinc ppm ASTM D5185(m) 1350 827 Sulfur ppm ASTM D5185(m) 4250 1878 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 57 Sodium ppm ASTM D5185(m) >25 57 Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7624* >3 0.6 Nitration Abs/cm ASTM D7624* >20<	Magnesium		ASTM D5185(m)	450	674		
Zinc ppm ASTM D5185(m) 1350 827 Sulfur ppm ASTM D5185(m) 4250 1878 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 57 Sodium ppm ASTM D5185(m) >25 57 Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7624* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	Calcium	ppm	ASTM D5185(m)	3000	1573		
Sulfur ppm ASTM D5185(m) 4250 1878 Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 57 Sodium ppm ASTM D5185(m) >25 57 Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7624* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	Phosphorus	ppm	ASTM D5185(m)	1150	679		
Lithium ppm ASTM D5185(m) 1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 57 Sodium ppm ASTM D5185(m) 5 Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7624* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	Zinc	ppm	ASTM D5185(m)	1350	827		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 57 Sodium ppm ASTM D5185(m) 5 Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	Sulfur	ppm	ASTM D5185(m)	4250	1878		
Silicon ppm ASTM D5185(m) >25 57 Sodium ppm ASTM D5185(m) 5 Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	Lithium	ppm	ASTM D5185(m)		1		
Sodium ppm ASTM D5185(m) 5 Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185(m) >20 74 Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	Silicon	ppm	ASTM D5185(m)	>25	57		
Fuel % ASTM D7593* >6.0 0.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	Sodium	ppm	ASTM D5185(m)		5		
INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	Potassium	ppm	ASTM D5185(m)	>20	74		
Soot % % ASTM D7844* >3 0.6 Nitration Abs/cm ASTM D7624* >20 13.0	Fuel	%	ASTM D7593*	>6.0	0.6		
Nitration Abs/cm ASTM D7624* >20 13.0	INFRA-RED		method	limit/base	current	history1	history2
	Soot %	%	ASTM D7844*	>3	0.6		
		Abs/cm	ASTM D7624*				
	Sulfation	Abs/.1mm	ASTM D7415*	>30			



OIL ANALYSIS REPORT





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

Lab Number : 02627595

: WC0895343 Unique Number : 5760727

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received : 09 Apr 2024 **Tested**

: 10 Apr 2024 Diagnosed Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel, Visual)

: 10 Apr 2024 - Kevin Marson To discuss this sample report, contact Customer Service at 1-800-268-2131.

PERFORMANCE EQUIPMENT - VISION TRUCK 415 EVANS AVENUE ETOBICOKE, ON **CA M8W 0B3** Contact: Service

etobservice@visiontruckgroup.com T:

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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