

# **OIL ANALYSIS REPORT**

Sample Rating Trend

## NORMAL

# VOLVO VNL 174 (S/N 4V4NC9EH8PN315470)

Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- GAL)

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

## Fluid Condition

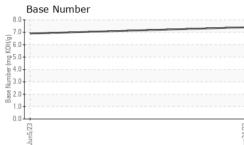
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

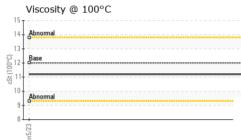
			Jun2023	Aug2023		
SAMPLE INFORM	<b>/</b> ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0097446	PCA0097615	
Sample Date		Client Info		24 Aug 2023	05 Jun 2023	
Machine Age	mls	Client Info		200000	142000	
Oil Age	mls	Client Info		28000	0	
Oil Changed		Client Info		N/A	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METALS	5	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	16	19	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>2	0	<1	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>25	2	1	
Lead	ppm	ASTM D5185m	>40	<1	<1	
Copper	ppm	ASTM D5185m	>330	4	7	
Tin	ppm	ASTM D5185m	>15	<1	<1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES			11 1. 4			la la tanan 0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	0	history1 2	nistory2
	ppm ppm					
Boron		ASTM D5185m	2	0	2	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	0 0	2 2	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 0 62	2 2 67	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	0 0 62 <1	2 2 67 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	0 0 62 <1 942	2 2 67 <1 935	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	0 0 62 <1 942 1001	2 2 67 <1 935 1121	  
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	2 0 50 0 950 1050 995	0 0 62 <1 942 1001 1014	2 2 67 <1 935 1121 1094	  
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	2 0 50 950 1050 995 1180	0 0 62 <1 942 1001 1014 1224	2 2 67 <1 935 1121 1094 1299	    
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	2 0 50 950 1050 995 1180 2600	0 0 62 <1 942 1001 1014 1224 3313	2 2 67 <1 935 1121 1094 1299 3554	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 0 62 <1 942 1001 1014 1224 3313 current	2 2 67 <1 935 1121 1094 1299 3554 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	2 0 50 950 1050 995 1180 2600 imit/base >25	0 0 62 <1 942 1001 1014 1224 3313 current 4	2 2 67 <1 935 1121 1094 1299 3554 history1 4	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25	0 0 62 <1 942 1001 1014 1224 3313 current 4 <	2 2 67 <1 935 1121 1094 1299 3554 history1 4 0	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25	0 0 62 <1 942 1001 1014 1224 3313 current 4 <1 2	2 2 67 <1 935 1121 1094 1299 3554 history1 4 0 4	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 -20 <b>limit/base</b>	0 0 62 <1 942 1001 1014 1224 3313 current 4 <1 2 current	2 2 67 <1 935 1121 1094 1299 3554 history1 4 0 4 0 4 history1	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Solium Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	0 0 62 <1 942 1001 1014 1224 3313 current 4 <1 2 current 0.4	2 2 67 <1 935 1121 1094 1299 3554 history1 4 0 4 0 4 0 4 1299 3554	     history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Solium Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm rS ppm ppm ppm ppm ppm spm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	0 0 62 <1 942 1001 1014 1224 3313 <i>current</i> 4 <1 2 <i>current</i> 0.4 8.4	2 2 67 <1 935 1121 1094 1299 3554 history1 4 0 4 0 4 0 4 0 4 8.7	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm rS ppm ppm ppm ppm ppm spm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 2600 255 220 220 20 3 20 20 330 20 30 20 30	0 0 62 <1 942 1001 1014 1224 3313 current 4 <1 2 current 0.4 8.4 18.9	2 2 67 <1 935 1121 1094 1299 3554 history1 4 0 4 0 4 history1 0.4 8.7 20.8	     history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 2600 255 220 220 20 3 20 20 330 20 30 20 30	0 0 62 <1 942 1001 1014 1224 3313 <i>current</i> 4 <1 2 <i>current</i> 0.4 8.4 18.9 <i>current</i>	2 2 67 <1 935 1121 1094 1299 3554 history1 4 0 4 0 4 0 4 0 4 0 4 .7 20.8 history1	    history2  history2  history2  history2



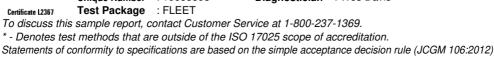
# **OIL ANALYSIS REPORT**

VISUAL









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