

### **OIL ANALYSIS REPORT**

# Sample Rating Trend NORMAL



#### VOLVO VNR 2126903 (S/N 4V4WC9EH9MN600467) Component **Diesel Engine** Fluid

PETRO CANADA DURON SHP 10W30 (36 QTS)

#### 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

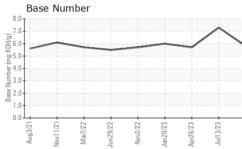
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

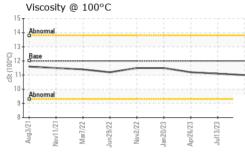
SAMPLE INFORM	<b>NATION</b>	method	limit/base	current	history1	history2	
Sample Number		Client Info		PCA0094602	PCA0094583	PCA0052352	
Sample Date		Client Info		05 Dec 2023	13 Jul 2023	26 Apr 2023	
Machine Age	mls	Client Info		324510	293256	268501	
Oil Age	mls	Client Info		31254	24755	24761	
Oil Changed		Client Info		Changed	Changed	Changed	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2	
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	NEG	
Glycol		WC Method		NEG	NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>100	25	17	20	
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1	
Nickel	ppm	ASTM D5185m	>2	3	2	4	
Titanium	ppm	ASTM D5185m		0	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	0	
Aluminum	ppm	ASTM D5185m	>25	1	0	1	
Lead	ppm	ASTM D5185m	>40	2	<1	0	
Copper	ppm	ASTM D5185m	>330	4	3	4	
Tin	ppm	ASTM D5185m	>15	<1	<1	<1	
Vanadium	ppm	ASTM D5185m		<1	<1	0	
Cadmium	ppm	ASTM D5185m		0	0	0	
ADDITIVES		method	limit/base	current	history1	history2	
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 2	current	history1 0	history2 2	
	ppm ppm						
Boron		ASTM D5185m	2	1	0	2	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	1 <1	0	2 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	1 <1 58	0 0 67	2 0 62	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	1 <1 58 0	0 0 67 <1	2 0 62 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	1 <1 58 0 923	0 0 67 <1 993	2 0 62 <1 1004	
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	1 <1 58 0 923 1072	0 0 67 <1 993 1167	2 0 62 <1 1004 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	1 <1 58 0 923 1072 901	0 0 67 <1 993 1167 1016	2 0 62 <1 1004 1121 1028	
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	1 <1 58 0 923 1072 901 1180	0 0 67 <1 993 1167 1016 1256	2 0 62 <1 1004 1121 1028 1320	
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 0 950 1050 995 1180 2600	1 <1 58 0 923 1072 901 1180 2205	0 0 67 <1 993 1167 1016 1256 3290	2 0 62 <1 1004 1121 1028 1320 3354	
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	1 <1 58 0 923 1072 901 1180 2205 current	0 0 67 <1 993 1167 1016 1256 3290 history1	2 0 62 <1 1004 1121 1028 1320 3354 history2	
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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b>	1 <1 58 0 923 1072 901 1180 2205 current 5	0 0 67 <1 993 1167 1016 1256 3290 history1 3	2 0 62 <1 1004 1121 1028 1320 3354 history2 3	
Boron Barium Molybdenum Manganese Magnesium Calcium 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 0 950 1050 995 1180 2600 <b>limit/base</b>	1 <1 58 0 923 1072 901 1180 2205 current 5 2	0 0 67 <1 993 1167 1016 1256 3290 history1 3 2	2 0 62 <1 1004 1121 1028 1320 3354 history2 3 1	
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 >20	1 <1 58 0 923 1072 901 1180 2205 current 5 2 2 <1	0 0 67 <1 993 1167 1016 1256 3290 history1 3 2 0	2 0 62 <1 1004 1121 1028 1320 3354 history2 3 1 2	
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> >3	1 <1 58 0 923 1072 901 1180 2205 current 5 2 <1 <1	0 0 67 <1 993 1167 1016 1256 3290 history1 3 2 0 0	2 0 62 <1 1004 1121 1028 1320 3354 history2 3 1 2 2 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3	1 <1 58 0 923 1072 901 1180 2205 <i>current</i> 5 2 <1 <i>current</i> 0.5	0 0 67 <1 993 1167 1016 1256 3290 history1 3 2 0 history1 0.4	2 0 62 <1 1004 1121 1028 1320 3354 history2 3 1 2 history2 0.4	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Solicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	1 <1 58 0 923 1072 901 1180 2205 current 5 2 <1 current 0.5 9.0	0 0 67 <1 993 1167 1016 1256 3290 history1 3 2 0 history1 0.4 8.7	2 0 62 <1 1004 1121 1028 1320 3354 history2 3 1 2 history2 0.4 8.6	
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 t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	1 <1 58 0 923 1072 901 1180 2205 <i>current</i> 5 2 <1 <i>current</i> 0.5 9.0 21.1	0 0 67 <1 993 1167 1016 1256 3290 history1 3 2 0 history1 0.4 8.7 19.8	2 0 62 <1 1004 1121 1028 1320 3354 <b>history2</b> 3 1 2 <b>history2</b> 0.4 8.6 18.7	



## **OIL ANALYSIS REPORT**

VISUAL





* - Denotes tes	t methods that	: PCA0094602 : 06027022 : 10776813 : FLEET contact Customer Serv are outside of the ISO 1	01 Madison Ave., Cary, NC 27513 Received : 06 Dec 2023 Diagnosed : 07 Dec 2023 Diagnostician : Wes Davis ce at 1-800-237-1369. 7025 scope of accreditation. ne simple acceptance decision rule (J				PERDUE FARMS - WASHINGTON P.O. BOX 539 WASHINGTON, IN US 47501 Contact: DEREK RYAN derek.ryan@perdue.com T: (812)257-3023 CGM 106:2012) F:		
Jun29/22 + Nov2/22 + Nov2/22 + Jun29/22 + Nov2/22 +	Apr26/23	Ferrous Alloys	Is	Jan.20123	Base Mumber (mark) Base Mumber (mark) 1. 0 0 0 0 0 0 0 0 0 0 0 0 0		Jun29/22	Apr26/23 +	
		FLUID PROPE Visc @ 100°C GRAPHS	RTIES cSt	method ASTM D445	limit/base 12.00	current 11.0	history1 11.1	history2 11.2	
<b>o</b> Jun29/22 Nov2/22 Jan20/23	Apr26/23 Jul13/23	Odor Emulsified Water Free Water	scalar scalar scalar	*Visual *Visual *Visual	NORML >0.2	NORML NEG NEG	NORML NEG NEG	NORML NEG NEG	
22	/23	Precipitate Silt Debris Sand/Dirt Appearance	scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual	NONE NONE NONE NORML	NONE NONE NONE NONE NORML	NONE NONE NONE NORML	NONE NONE NONE NORML	
		White Metal Yellow Metal	scalar scalar	*Visual *Visual	NONE NONE	NONE NONE	NONE NONE	NONE NONE	

Contact/Location: DEREK RYAN - PERWAS