

# **OIL ANALYSIS REPORT**

Sample Number

### Sample Rating Trend

Client Info



PCA0052367

Wachine Id VOLVO VNR 2026787 (S/N 4V4WC9EH3LN270128)

**Diesel Engine** 

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

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

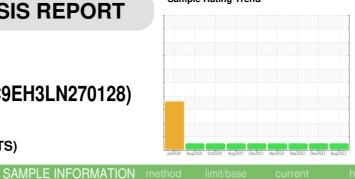
All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

### **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.

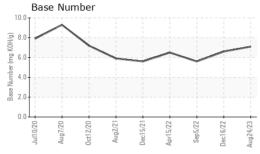


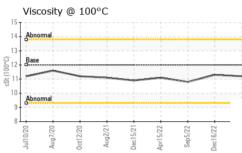
PCA0094592 PCA0052363

Sample Number		Client Info		PCA0094592	PGA0052363	PGA0052367
Sample Date		Client Info		24 Aug 2023	16 Dec 2022	05 Sep 2022
Machine Age	mls	Client Info		308000	249112	223787
Oil Age	mls	Client Info		28330	25325	37204
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
	ION	WC Method	>6.0		<1.0	<1.0
Fuel			>6.0	<1.0		
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	19	20	28
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>25	2	<1	4
Lead	ppm	ASTM D5185m	>40	<1	1	2
Copper	ppm	ASTM D5185m	>330	4	7	10
Tin	ppm	ASTM D5185m	>15	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	РРП					
ADDITIVES		method			history1	history2
Boron	ppm	ASTM D5185m	2	12	0	1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2			1 2
				12	0	
Barium	ppm	ASTM D5185m	0	12 0	0	2
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 50	12 0 44	0 0 60	2 59
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0	12 0 44 <1	0 0 60 <1	2 59 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950	12 0 44 <1 617	0 0 60 <1 872	2 59 <1 853
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050	12 0 44 <1 617 1636	0 0 60 <1 872 1071	2 59 <1 853 1025
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995	12 0 44 <1 617 1636 789	0 0 60 <1 872 1071 953	2 59 <1 853 1025 894
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	0 50 0 950 1050 995 1180	12 0 44 <1 617 1636 789 990	0 0 60 <1 872 1071 953 1148	2 59 <1 853 1025 894 1148
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	0 50 0 950 1050 995 1180 2600	12 0 44 <1 617 1636 789 990 2935	0 0 60 <1 872 1071 953 1148 2502	2 59 <1 853 1025 894 1148 2282
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 ASTM D5185m	0 50 0 950 1050 995 1180 2600	12 0 44 <1 617 1636 789 990 2935	0 0 60 <1 872 1071 953 1148 2502 history1	2 59 <1 853 1025 894 1148 2282 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600	12 0 44 <1 617 1636 789 990 2935 current 6	0 0 60 <1 872 1071 953 1148 2502 history1	2 59 <1 853 1025 894 1148 2282 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base	12 0 44 <1 617 1636 789 990 2935 current 6 4	0 0 60 <1 872 1071 953 1148 2502 history1 4	2 59 <1 853 1025 894 1148 2282 history2 4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25 >20	12 0 44 <1 617 1636 789 990 2935 current 6 4	0 0 60 <1 872 1071 953 1148 2502 history1 4 8	2 59 <1 853 1025 894 1148 2282 history2 4 11
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  method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25 >20	12 0 44 <1 617 1636 789 990 2935 current 6 4 2	0 0 60 <1 872 1071 953 1148 2502 history1 4 8 4	2 59 <1 853 1025 894 1148 2282 history2 4 11 7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m  method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	12 0 44 <1 617 1636 789 990 2935 current 6 4 2 current	0 0 60 <1 872 1071 953 1148 2502 history1 4 8 4 history1 0.5	2 59 <1 853 1025 894 1148 2282 history2 4 11 7 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m  method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	12 0 44 <1 617 1636 789 990 2935 current 6 4 2 current 0.4 10.2	0 0 60 <1 872 1071 953 1148 2502 history1 4 8 4 history1 0.5 10.0	2 59 <1 853 1025 894 1148 2282 history2 4 11 7 history2 0.6 11.2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m  method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20 >30	12 0 44 <1 617 1636 789 990 2935 current 6 4 2 current 0.4 10.2 21.8 current	0 0 60 <1 872 1071 953 1148 2502 history1 4 8 4 history1 0.5 10.0 20.8	2 59 <1 853 1025 894 1148 2282 history2 4 11 7 history2 0.6 11.2 24.7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m  method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  method *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20 >30 limit/base	12 0 44 <1 617 1636 789 990 2935 current 6 4 2 current 0.4 10.2 21.8	0 0 60 <1 872 1071 953 1148 2502 history1 4 8 4 history1 0.5 10.0 20.8 history1	2 59 <1 853 1025 894 1148 2282 history2 4 11 7 history2 0.6 11.2 24.7



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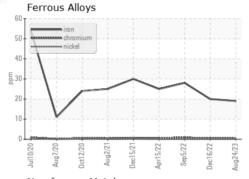


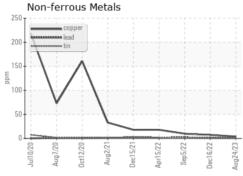


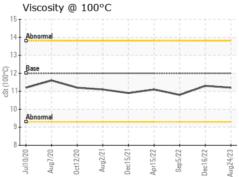
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

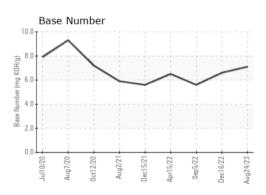
FLUID PROPE	KIIES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	12.00	11.2	11.3	10.8

## **GRAPHS**













Certificate L2367

Laboratory Sample No. Lab Number

Unique Number : 10633464

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0094592 : 05942852

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Test Package : FLEET

Received : 05 Sep 2023 : 08 Sep 2023 Diagnosed Diagnostician : Sean Felton

**PERDUE FARMS - WASHINGTON** P.O. BOX 539 WASHINGTON, IN

US 47501 Contact: DEREK RYAN derek.ryan@perdue.com T: (812)257-3023

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: PERWAS [WUSCAR] 05942852 (Generated: 09/08/2023 10:21:13) Rev: 1

Contact/Location: DEREK RYAN - PERWAS

F: