

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Wachine Id VOLVO MA025 117 (S/N 4V4NC9EH6MN286711)

Component

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

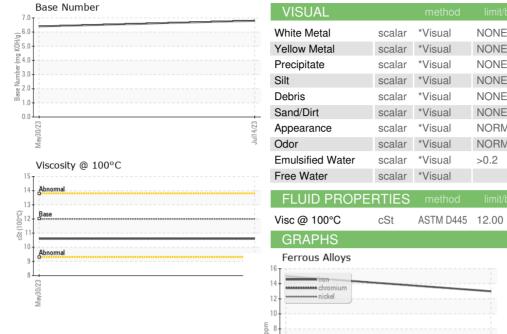
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

1ATION	method	limit/base		
		May2023	Jul2023	
, , , ,				
711)				
RT				

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0097574	PCA0097620	
Sample Date		Client Info		14 Jul 2023	30 May 2023	
Machine Age	mls	Client Info		435000	410000	
Oil Age	mls	Client Info		410000	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>130	13	15	
Chromium	ppm	ASTM D5185m	>10	<1	<1	
Nickel	ppm	ASTM D5185m	>4	0	<1	
Titanium	ppm	ASTM D5185m	>2	<1	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>20	3	3	
Lead	ppm	ASTM D5185m	>20	<1	<1	
Copper	ppm	ASTM D5185m	>125	2	3	
Tin	ppm	ASTM D5185m	>4	<1	<1	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1	history2
	ppm					
Boron	• • • • • • • • • • • • • • • • • • • •	ASTM D5185m	2	0	0	
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2	0 0	0 2 68 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	0 0 64 <1 1030	0 2 68 <1 949	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	0 0 64 <1 1030 1160	0 2 68 <1 949 1122	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	0 0 64 <1 1030 1160 1067	0 2 68 <1 949 1122 1097	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	0 0 64 <1 1030 1160 1067	0 2 68 <1 949 1122 1097 1287	
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	2 0 50 0 950 1050 995	0 0 64 <1 1030 1160 1067	0 2 68 <1 949 1122 1097	
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 ASTM D5185m	2 0 50 0 950 1050 995 1180	0 0 64 <1 1030 1160 1067	0 2 68 <1 949 1122 1097 1287	
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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	0 0 64 <1 1030 1160 1067 1278 3481	0 2 68 <1 949 1122 1097 1287 3390	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	0 0 64 <1 1030 1160 1067 1278 3481 current	0 2 68 <1 949 1122 1097 1287 3390 history1 3 0	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	0 0 64 <1 1030 1160 1067 1278 3481 current	0 2 68 <1 949 1122 1097 1287 3390 history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	0 0 64 <1 1030 1160 1067 1278 3481 current 3	0 2 68 <1 949 1122 1097 1287 3390 history1 3 0	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25	0 0 64 <1 1030 1160 1067 1278 3481 current 3 2 0	0 2 68 <1 949 1122 1097 1287 3390 history1 3 0 2	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	0 0 64 <1 1030 1160 1067 1278 3481 current 3 2 0	0 2 68 <1 949 1122 1097 1287 3390 history1 3 0 2 history1 0.5 9.0	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	0 0 64 <1 1030 1160 1067 1278 3481 current 3 2 0	0 2 68 <1 949 1122 1097 1287 3390 history1 3 0 2 history1 0.5	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	0 0 64 <1 1030 1160 1067 1278 3481 current 3 2 0 current 0.5	0 2 68 <1 949 1122 1097 1287 3390 history1 3 0 2 history1 0.5 9.0	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 ppm ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >6 >20 >30	0 0 64 <1 1030 1160 1067 1278 3481 current 3 2 0 current 0.5 9.1 20.8	0 2 68 <1 949 1122 1097 1287 3390 history1 3 0 2 history1 0.5 9.0 21.7	history2 history2

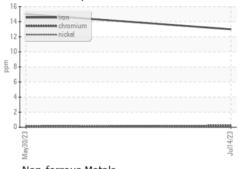


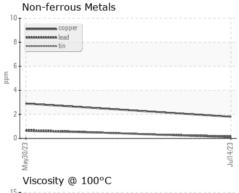
OIL ANALYSIS REPORT

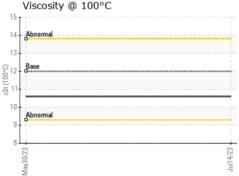


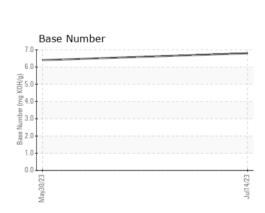
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML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

FLUID FROFI		method			HISTOLAL	HISTOLYZ
Visc @ 100°C	cSt	ASTM D445	12.00	10.6	10.6	











Certificate L2367

Laboratory Sample No. Lab Number

Unique Number : 10566457

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 05905101

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

: PCA0097574 Test Package : FLEET

Received : 24 Jul 2023 Diagnosed Diagnostician : Wes Davis

: 24 Jul 2023

13915 W ROUTE 30 PLAINFIELD, IL US 60544 Contact: JOSHUA HUBBARD

joshua@tvarepairllc.com T: (815)306-0330

* - 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) **TVA REPAIR LLC**