

OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

VOLVO MA025 117 (S/N 4V4NC9EH6MN286711)

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

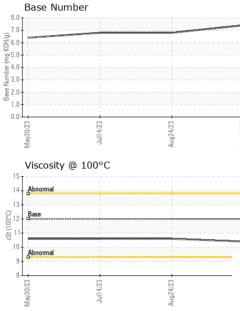
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0097535	PCA0097433	PCA0097574
Sample Date		Client Info		24 Aug 2023	24 Aug 2023	14 Jul 2023
Machine Age	mls	Client Info		455000	484000	435000
Oil Age	mls	Client Info		435000	435000	410000
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel			>3.0	<1.0	<1.0	<1.0
Glycol		WC Method	20.0	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>130	11	14	13
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	0	3
Lead	ppm	ASTM D5185m	>20	<1	<1	<1
Copper	ppm	ASTM D5185m	>125	1	2	2
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <1	history1 0	history2 0
	ppm ppm		2			
Boron		ASTM D5185m	2	<1	0	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	<1 0	0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	<1 0 63	0 0 63	0 0 64
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	<1 0 63 <1	0 0 63 <1	0 0 64 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	<1 0 63 <1 953	0 0 63 <1 961	0 0 64 <1 1030
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 0 63 <1 953 1065	0 0 63 <1 961 1021	0 0 64 <1 1030 1160
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 0 63 <1 953 1065 1038	0 0 63 <1 961 1021 1016	0 0 64 <1 1030 1160 1067
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 0 63 <1 953 1065 1038 1243	0 0 63 <1 961 1021 1016 1247	0 0 64 <1 1030 1160 1067 1278
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	<1 0 63 <1 953 1065 1038 1243 3251	0 0 63 <1 961 1021 1016 1247 3322	0 0 64 <1 1030 1160 1067 1278 3481
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	<1 0 63 <1 953 1065 1038 1243 3251 current	0 0 63 <1 961 1021 1016 1247 3322 history1	0 0 64 <1 1030 1160 1067 1278 3481 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 0 63 <1 953 1065 1038 1243 3251 current 4	0 0 63 <1 961 1021 1016 1247 3322 history1 4	0 0 64 <1 1030 1160 1067 1278 3481 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	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 limit/base >25	<1 0 63 <1 953 1065 1038 1243 3251 current 4 1	0 0 63 <1 961 1021 1016 1247 3322 history1 4 <1	0 0 64 <1 1030 1160 1067 1278 3481 history2 3 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	<1 0 63 <1 953 1065 1038 1243 3251 current 4 1 2 2 current	0 0 63 <1 961 1021 1016 1247 3322 history1 4 <1 2 history1	0 0 64 <1 1030 1160 1067 1278 3481 history2 3 2 0 bistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	<1 0 63 <1 953 1065 1038 1243 3251 current 4 1 2 2 current	0 0 63 <1 961 1021 1016 1247 3322 history1 4 <1 2 history1 0.5	0 0 64 <1 1030 1160 1067 1278 3481 history2 3 2 0 history2 0.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	<1 0 63 <1 953 1065 1038 1243 3251 current 4 1 2 2 current	0 0 63 <1 961 1021 1016 1247 3322 history1 4 <1 2 history1	0 0 64 <1 1030 1160 1067 1278 3481 history2 3 2 0 bistory2
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >6 >20	<1 0 63 <1 953 1065 1038 1243 3251 current 4 1 2 2 current 0.4 8.7 19.3	0 0 63 <1 961 1021 1016 1247 3322 history1 4 <1 2 history1 0.5 9.0 20.4	0 0 64 <1 1030 1160 1067 1278 3481 history2 3 2 0 history2 0.5 9.1 20.8
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 ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 20 20 20 20 20 30 20 20	<1 0 63 <1 953 1065 1038 1243 3251 current 4 1 2 current 0.4 8.7 19.3 current	0 0 63 <1 961 1021 1016 1247 3322 history1 4 <1 2 history1 0.5 9.0 20.4 history1	0 0 64 <1 1030 1160 1067 1278 3481 history2 3 2 0 history2 0.5 9.1 20.8 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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >6 >20	<1 0 63 <1 953 1065 1038 1243 3251 current 4 1 2 2 current 0.4 8.7 19.3	0 0 63 <1 961 1021 1016 1247 3322 history1 4 <1 2 history1 0.5 9.0 20.4	0 0 64 <1 1030 1160 1067 1278 3481 history2 3 2 0 history2 0.5 9.1 20.8



OIL ANALYSIS REPORT

VISUAL



Jul14/23 Aug24/23	Aug24/23	White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water	scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE NONE NORML NORML >0.2	NONE NONE NONE NONE NONE NORML NORML NEG	NONE NONE NONE NONE NONE NORML NORML NEG	NONE NONE NONE NONE NONE NORML NORML NEG
		Free Water	scalar	*Visual		NEG	NEG	NEG
		FLUID PRO	cSt	method ASTM D445	limit/base	current 10.4	history1 10.6	history2 10.6
		GRAPHS						
Juli 1423 + 2012		Ferrous Alloys						
		Non-ferrous Me		Aug24/23	Aug24/23			
		Viscosity @ 100		Aug24/23	8. 7. (6)HOX 50 9292 82 9292 92 1. 1.			
* - Denotes tes	t methods that a	: WearCheck USA : PCA0097535 : 05972016 : 10683966 : FLEET contact Customer S re outside of the ISG	A - 501 Madis Received Diagnose Diagnost ervice at 1-8 O 17025 sco	l : 06 (ed : 09 (ician : We 00-237-1369 pe of accrea	Oct 2023 Oct 2023 s Davis D. <i>litation.</i>	May30/23 3	TV 1391 Contact: JOSF joshua@	A REPAIR LLC 5 W ROUTE 30 PLAINFIELD, IL US 60544 HUA HUBBARD tvarepairllc.com : (815)306-0330 F:

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