

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

VOLVO VNL 760 224

Diesel Engine

PETRO CANADA DURON SHP 10W30 (12 GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. 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.

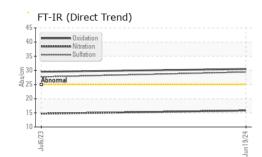
Fluid Condition

The BN level is low. The condition of the oil is acceptable for the time in service.

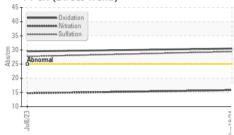
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0117372	PCA0100615	
Sample Date		Client Info		19 Jun 2024	06 Jul 2023	
Machine Age	mls	Client Info		199444	86215	
Oil Age	mls	Client Info		40000	43623	
Oil Changed		Client Info		Changed	Changed	
Sample Status				ABNORMAL	ABNORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	62	70	
Chromium	ppm	ASTM D5185m	>20	<1	1	
Nickel	ppm	ASTM D5185m	>2	0	<1	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>2	<1	<1	
Aluminum	ppm	ASTM D5185m	>25	4	16	
Lead	ppm	ASTM D5185m	>40	0	<1	
Copper	ppm	ASTM D5185m	>330	8	55	
Tin	ppm	ASTM D5185m	>15	1	3	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 3	history1 2	history2
	ppm ppm					
Boron		ASTM D5185m	2	3	2	
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0	3 0	2	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	3 0 61	2 0 72	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	3 0 61 <1	2 0 72 2	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	3 0 61 <1 957	2 0 72 2 861	
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	3 0 61 <1 957 1231	2 0 72 2 861 1165	
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	3 0 61 <1 957 1231 1109	2 0 72 2 861 1165 968	
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 0 950 1050 995 1180	3 0 61 <1 957 1231 1109 1381	2 0 72 2 861 1165 968 1186	
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	3 0 61 <1 957 1231 1109 1381 3109	2 0 72 2 861 1165 968 1186 2589	
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	3 0 61 <1 957 1231 1109 1381 3109 current	2 0 72 2 861 1165 968 1186 2589 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	2 0 50 0 950 1050 995 1180 2600 Iimit/base >25	3 0 61 <1 957 1231 1109 1381 3109 current 11	2 0 72 2 861 1165 968 1186 2589 history1 11	 history2
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 0 950 1050 995 1180 2600 Iimit/base >25	3 0 61 <1 957 1231 1109 1381 3109 current 11 3	2 0 72 2 861 1165 968 1186 2589 history1 11 0	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20	3 0 61 <1 957 1231 1109 1381 3109 current 11 3 7	2 0 72 2 861 1165 968 1186 2589 history1 11 0 42	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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	3 0 61 <1 957 1231 1109 1381 3109 current 11 3 7 current	2 0 72 2 861 1165 968 1186 2589 history1 11 0 42 history1	 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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3	3 0 61 <1 957 1231 1109 1381 3109 current 11 3 7 current 0.7	2 0 72 2 861 1165 968 1186 2589 history1 11 0 42 history1 0.8	 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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base >3 >20	3 0 61 <1 957 1231 1109 1381 3109 current 11 3 7 current 0.7 15.8	2 0 72 2 861 1165 968 1186 2589 history1 11 0 42 history1 0.8 14.7	 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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Iimit/base >25 >20 Iimit/base >3 >20 >30	3 0 61 <1 957 1231 1109 1381 3109 current 11 3 7 current 0.7 15.8 29.4	2 0 72 2 861 1165 968 1186 2589 history1 11 0 42 history1 0.8 14.7 27.7	 history2 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 ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30 imit/base	3 0 61 <1 957 1231 1109 1381 3109 current 11 3 7 current 0.7 15.8 29.4 current	2 0 72 2 861 1165 968 1186 2589 history1 11 0 42 history1 0.8 14.7 27.7 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT



FT-IR (Direct Trend)

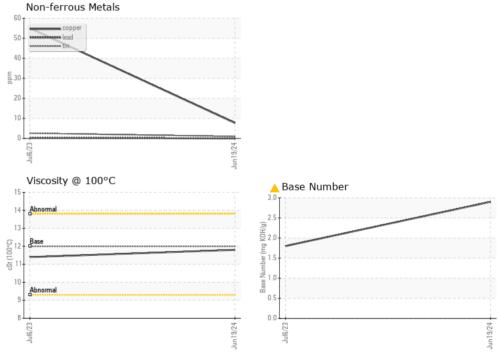


Viscosity @ 100°C 15 14



VISUAL		method	limit/base	current	history1	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
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Visc @ 100°C	cSt	ASTM D445	12.00	11.8	11.4	
		ASTM D445	12.00	11.8		
Visc @ 100°C		ASTM D445	12.00	11.8		

Non-ferrous Metals



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 A Truck Repair Sample No. : PCA0117372 Received 9349 China Grove Church Road : 18 Jul 2024 Lab Number : 06240086 Tested : 19 Jul 2024 Pineville, NC Unique Number : 11128920 US 28134 Diagnosed : 20 Jul 2024 - Don Baldridge Test Package : FLEET Contact: Vlad Melnichuk Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. shop@migway.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (980)255-3200 F:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: ATRPIN [WUSCAR] 06240086 (Generated: 07/21/2024 10:55:16) Rev: 1

Submitted By: Vlad Melnichuk

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