

OIL ANALYSIS REPORT

(AU670W) Supermarket - Tractor Machine Id FREIGHTLINER 107A1816

Component Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Fluid

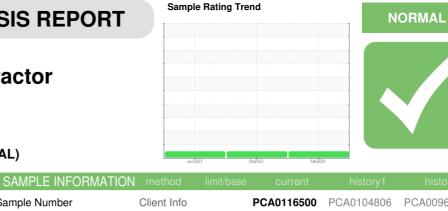
All component wear rates are normal.

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.

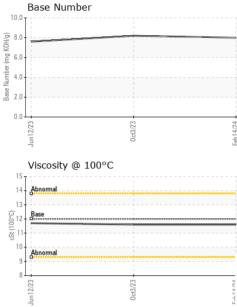


Sample Number		Client Info		PCA0116500	PCA0104806	PCA0096010
Sample Date		Client Info		14 Feb 2024	03 Oct 2023	12 Jun 2023
Machine Age	mls	Client Info		339319	316845	300176
Oil Age	mls	Client Info		22474	16669	19424
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	13	16	15
Chromium	ppm	ASTM D5185m	>5	1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	7	6	7
Lead	ppm	ASTM D5185m	>30	0	<1	0
Copper	ppm	ASTM D5185m	>150	2	2	2
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
			11 1.0			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current	history1 2	history2 7
	ppm ppm					
Boron		ASTM D5185m	2	<1	2	7
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	<1 0	2 0	7 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	<1 0 59	2 0 59	7 0 59
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	<1 0 59 <1	2 0 59 <1	7 0 59 <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 59 <1 934	2 0 59 <1 954	7 0 59 <1 964
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 59 <1 934 1077	2 0 59 <1 954 1063	7 0 59 <1 964 1162
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 59 <1 934 1077 982	2 0 59 <1 954 1063 1051	7 0 59 <1 964 1162 1036
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 59 <1 934 1077 982 1161	2 0 59 <1 954 1063 1051 1282	7 0 59 <1 964 1162 1036 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	2 0 50 950 1050 995 1180 2600	<1 0 59 <1 934 1077 982 1161 2751	2 0 59 <1 954 1063 1051 1282 2986	7 0 59 <1 964 1162 1036 1287 3592
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 59 <1 934 1077 982 1161 2751 current	2 0 59 <1 954 1063 1051 1282 2986 history1	7 0 59 <1 964 1162 1036 1287 3592 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 method	2 0 50 950 1050 995 1180 2600	<1 0 59 <1 934 1077 982 1161 2751 current 4	2 0 59 <1 954 1063 1051 1282 2986 history1 5	7 0 59 <1 964 1162 1036 1287 3592 history2 4
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 method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base	<1 0 59 <1 934 1077 982 1161 2751 current 4 2	2 0 59 <1 954 1063 1051 1282 2986 history1 5 2	7 0 59 <1 964 1162 1036 1287 3592 history2 4 2
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 50 950 1050 995 1180 2600 limit/base >20	<1 0 59 <1 934 1077 982 1161 2751 current 4 2 0	2 0 59 <1 954 1063 1051 1282 2986 history1 5 2 4	7 0 59 <1 964 1162 1036 1287 3592 history2 4 2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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 >20 limit/base	<1 0 59 <1 934 1077 982 1161 2751 current 4 2 0 0 current	2 0 59 <1 954 1063 1051 1282 2986 history1 5 2 4 4 history1	7 0 59 <1 964 1162 1036 1287 3592 history2 4 2 2 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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >20 }	<1 0 59 <1 934 1077 982 1161 2751 <i>current</i> 4 2 0 <i>current</i> 0.8	2 0 59 <1 954 1063 1051 1282 2986 history1 5 2 4 history1 0.8	7 0 59 <1 964 1162 1036 1287 3592 history2 4 2 2 history2 0.8
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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >20 limit/base >20	<1 0 59 <1 934 1077 982 1161 2751 <i>current</i> 4 2 0 <i>current</i> 0.8 8.3	2 0 59 <1 954 1063 1051 1282 2986 history1 5 2 2 4 history1 0.8 8.1	7 0 59 <1 964 1162 1036 1287 3592 history2 4 2 2 history2 0.8 8.2
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 D5185m	2 0 50 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 >30	<1 0 59 <1 934 1077 982 1161 2751 <i>current</i> 4 2 0 <i>current</i> 0.8 8.3 19.6	2 0 59 <1 954 1063 1051 1282 2986 history1 5 2 2 4 history1 0.8 8.1 19.8	7 0 59 <1 964 1162 1036 1287 3592 history2 4 2 2 history2 0.8 8.2 20.5
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 ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 0 50 0 950 1050 995 1180 2600 2600 20 20 20 20 20 3 20 20 3 3 20 3 3 3 20 3 3 3 20 3 3 3 20 3 3 3 20 3 3 3 3	<1 0 59 <1 934 1077 982 1161 2751 Current 4 2 0 Current 0.8 8.3 19.6 Current	2 0 59 <1 954 1063 1051 1282 2986 history1 5 2 2 4 history1 0.8 8.1 19.8 history1	7 0 59 <1 964 1162 1036 1287 3592 history2 4 2 2 history2 0.8 8.2 20.5 history2

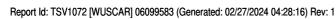


OIL ANALYSIS REPORT

VISUAL



Certificate L2367 Unique Number Test Package		: PCA0116500 : 06099583 : 10897813 : FLEET	Receiv Tested Diagno	Madison Ave., Cary, NC 27513 Transer Received : 26 Feb 2024 Tested : 27 Feb 2024 Diagnosed : 27 Feb 2024 - Wes Davis ce at 1-800-237-1369.			vice - Shop 1072 - Supermarket-Elizabe 505 Division Stree Elizabeth, N US 0720 Contact: Normand Briza nbrizak@transervice.cor	
		Abnormal Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Base Ba	0ci3/23		0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Jun 12/23	0ci3/23	C C PH 41
		4 2 0 EZZ 1 0 Viscosity @ 100°(0ct3/23	And a state of the		Base Number		
		Non-ferrous Meta			Feb14/24			
		udd 8 6 4 2 0 6272	0ct3/23		424			
0ct3/23	C-11704	GRAPHS Ferrous Alloys		<u> </u>	1			
		FLUID PROPE Visc @ 100°C		method ASTM D445	limit/base 12.00	current 11.6	history1 11.6	history2 11.7
		Emulsified Water Free Water		*Visual *Visual	>0.2	NEG NEG	NEG NEG	NEG NEG
0ct3/23	Feb14/24	Odor	scalar '	*Visual	NORML	NORML	NORML	NORML
23	Sand/Dirt Appearance		*Visual *Visual	NONE NORML	NONE NORML	NONE NORML	NONE NORML	
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
	Silt		*Visual	NONE	NONE	NONE	NONE	
		Precipitate	scalar '	*Visual	NONE	NONE	NONE	NONE



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Submitted By: Normand Brizak Page 2 of 2