

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area (AU401U) Supermarket Machine Id FREIGHTLINER 107A8836 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 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.

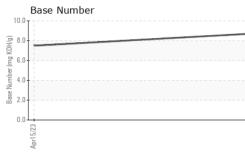
Fluid Condition

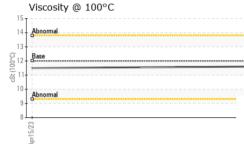
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

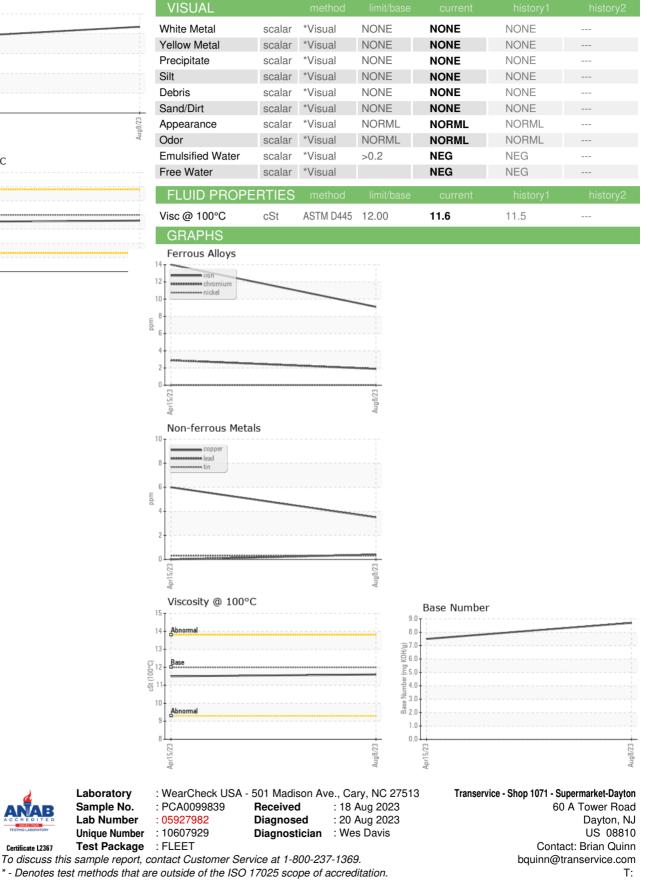
			Apr2023	Aug2023		
SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0099839	PCA0096001	
Sample Date		Client Info		08 Aug 2023	15 Apr 2023	
Machine Age	mls	Client Info		194435	187100	
Oil Age	mls	Client Info		7335	19441	
Oil Changed		Client Info		Not Changd	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATIO	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METALS	\$	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	9	14	
Chromium	ppm	ASTM D5185m	>5	2	3	
Nickel	ppm	ASTM D5185m	>2	0	0	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>3	<1	0	
Aluminum	ppm	ASTM D5185m	>30	12	25	
Lead	ppm	ASTM D5185m	>30	<1	0	
Copper	ppm	ASTM D5185m	>150	4	6	
Tin	ppm	ASTM D5185m	>5	<1	<1	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES						
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current 23	history1 6	history2
	ppm ppm					
Boron		ASTM D5185m	2	23	6	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	23 0	6 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	23 0 64	6 0 64	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	23 0 64 <1	6 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	23 0 64 <1 922	6 0 64 <1 956	
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	23 0 64 <1 922 1156	6 0 64 <1 956 1097	
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	23 0 64 <1 922 1156 998	6 0 64 <1 956 1097 1017	
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	23 0 64 <1 922 1156 998 1209	6 0 64 <1 956 1097 1017 1237	
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 0 950 1050 995 1180 2600	23 0 64 <1 922 1156 998 1209 3602	6 0 64 <1 956 1097 1017 1237 3076	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT	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	23 0 64 <1 922 1156 998 1209 3602 current	6 0 64 <1 956 1097 1017 1237 3076 history1	 history2
Boron Barium Molybdenum Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon	ppm	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 limit/base >20	23 0 64 <1 922 1156 998 1209 3602 current 5	6 0 64 <1 956 1097 1017 1237 3076 history1 5	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	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 limit/base >20	23 0 64 <1 922 1156 998 1209 3602 <u>current</u> 5 2	6 0 64 <1 956 1097 1017 1237 3076 history1 5 2	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>limit/base</i> >20	23 0 64 <1 922 1156 998 1209 3602 <u>current</u> 5 2 2 25	6 0 64 <1 956 1097 1017 1237 3076 history1 5 2 51	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >20 Imit/base >20	23 0 64 <1 922 1156 998 1209 3602 current 5 2 2 25 current	6 0 64 <1 956 1097 1017 1237 3076 history1 5 2 51 51 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >20 Imit/base >20	23 0 64 <1 922 1156 998 1209 3602 current 5 2 25 25 current 0.4	6 0 64 <1 956 1097 1017 1237 3076 history1 5 2 5 5 2 51 history1 0.5	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >20 <i>imit/base</i> >20	23 0 64 <1 922 1156 998 1209 3602 current 5 2 25 225 current 0.4 6.7	6 0 64 <1 956 1097 1017 1237 3076 history1 5 2 51 2 51 history1 0.5 7.8	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT 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 0 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 >30	23 0 64 <1 922 1156 998 1209 3602 current 5 2 25 2 25 current 0.4 6.7 18.8	6 0 64 <1 956 1097 1017 1237 3076 history1 5 2 51 51 history1 0.5 7.8 19.4	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT 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 0 50 0 950 1050 995 1180 2600 2600 20 20 20 20 20 3 20 20 20 3 3 20 20 3 3 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	23 0 64 <1 922 1156 998 1209 3602 current 5 2 25 current 0.4 6.7 18.8 current	6 0 64 <1 956 1097 1017 1237 3076 history1 5 2 51 5 2 51 0.5 7.8 19.4 history1	 history2 history2 history2 history2



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

Certificate L2367

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