

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area (AY659D) Supermarket - Tractor Machine Id FREIGHTLINER 107A1855 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

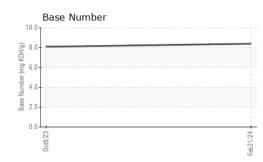
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

AL)			0ct2023	Feb2024		
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0116499	PCA0104804	
Sample Date		Client Info		21 Feb 2024	09 Oct 2023	
Machine Age	hrs	Client Info		55549	41370	
Oil Age	hrs	Client Info		14179	10833	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS	6	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	18	24	
Chromium	ppm	ASTM D5185m	>5	1	1	
Nickel	ppm	ASTM D5185m	>2	0	0	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>3	<1	<1	
Aluminum	ppm	ASTM D5185m	>30	8	18	
Lead	ppm	ASTM D5185m	>30	<1	0	
Copper	ppm	ASTM D5185m	>150	37	113	
Tin	ppm	ASTM D5185m	>5	<1	2	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES						
	ppm	ASTM D5185m	2	5	22	
	ppm ppm		2 0	5 0		
Boron Barium		ASTM D5185m			22	
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	0	0	22 0	
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 50	0 56	22 0 47	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0	0 56 <1	22 0 47 1	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950	0 56 <1 852	22 0 47 1 700	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050	0 56 <1 852 1193	22 0 47 1 700 1257	
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	0 50 0 950 1050 995	0 56 <1 852 1193 993	22 0 47 1 700 1257 905	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180	0 56 <1 852 1193 993 1151	22 0 47 1 700 1257 905 1080	
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	0 50 0 950 1050 995 1180 2600	0 56 <1 852 1193 993 1151 2722	22 0 47 1 700 1257 905 1080 2446	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600	0 56 <1 852 1193 993 1151 2722 current	22 0 47 1 700 1257 905 1080 2446 history1	 history2
Boron Barium Molybdenum Manganese 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	0 50 0 950 1050 995 1180 2600	0 56 <1 852 1193 993 1151 2722 current 3	22 0 47 1 700 1257 905 1080 2446 history1 4	 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 ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >20	0 56 <1 852 1193 993 1151 2722 current 3 3 3	22 0 47 1 700 1257 905 1080 2446 history1 4 4	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 limit/base >20	0 56 <1 852 1193 993 1151 2722 current 3 3 21	22 0 47 1 700 1257 905 1080 2446 history1 4 4 4 55	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 imit/base >20 }	0 56 <1 852 1193 993 1151 2722 current 3 3 21 current	22 0 47 1 700 1257 905 1080 2446 history1 4 4 55 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot %	ppm i ppm i	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >20 <i>limit/base</i> >20	0 56 <1 852 1193 993 1151 2722 current 3 3 21 current 0.6	22 0 47 1 700 1257 905 1080 2446 history1 4 4 55 history1 0.6	 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	0 50 0 950 1050 995 1180 2600 imit/base >20 >20 imit/base >3 >20	0 56 <1 852 1193 993 1151 2722 <u>current</u> 3 3 21 <u>current</u> 0.6 7.6	22 0 47 1 700 1257 905 1080 2446 history1 4 4 55 history1 0.6 8.2	 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	0 50 0 950 1050 995 1180 2600 imit/base >20 >20 imit/base >3 >20 >30	0 56 <1 852 1193 993 1151 2722 current 3 3 21 current 0.6 7.6 19.9	22 0 47 1 700 1257 905 1080 2446 history1 4 4 4 55 history1 0.6 8.2 21.2 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 >30	0 56 <1 852 1193 993 1151 2722 current 3 3 21 current 0.6 7.6 19.9 current	22 0 47 1 700 1257 905 1080 2446 history1 4 4 55 history1 0.6 8.2 21.2	 history2 history2 history2 history2



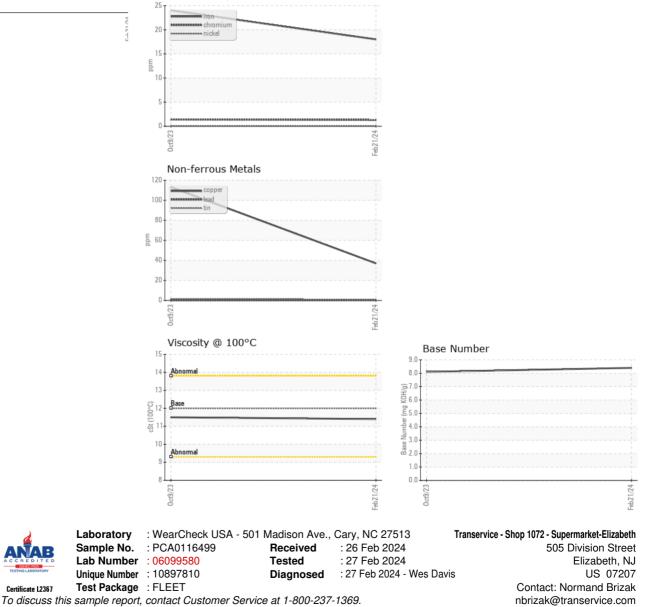
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OIL ANALYSIS REPORT



Viscosity @ 100°C 15 14 Abnorm cSt (100°C) Ba Abnorma

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
Visc @ 100°C	cSt	ASTM D445	12.00	11.4	11.5	
GRAPHS						
Ferrous Alloys						



* - 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)

Certificate L2367

T:

F: