

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area (AU704W) Supermarket Machine Id FREIGHTLINER 107A1890 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.

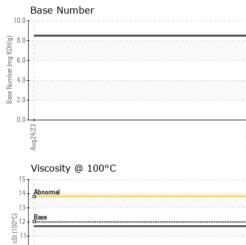
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0100418		
Sample Date		Client Info		24 Aug 2023		
Machine Age	hrs	Client Info		241820		
Oil Age	hrs	Client Info		11905		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Glycol		WC Method	20	NEG		
-	0		11.0011/000000		la facta ana d	history O
WEAR METAL		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	8		
Chromium	ppm	ASTM D5185m	>5	<1		
Nickel	ppm	ASTM D5185m	>2	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm		>30	3		
Lead	ppm	ASTM D5185m	>30	0		
Copper	ppm	ASTM D5185m	>150	2		
Tin	ppm	ASTM D5185m	>5	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 5	history1	history2
	ppm ppm					
Boron Barium		ASTM D5185m	2	5		
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0	5 0		
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	5 0 68		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	5 0 68 <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	5 0 68 <1 1027		
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	5 0 68 <1 1027 1217	 	
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	5 0 68 <1 1027 1217 1126	 	
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	5 0 68 <1 1027 1217 1126 1374	 	
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	5 0 68 <1 1027 1217 1126 1374 3852		
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	5 0 68 <1 1027 1217 1126 1374 3852 current		
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 Limit/base >20	5 0 68 <1 1027 1217 1126 1374 3852 current 3	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm 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 >20	5 0 68 <1 1027 1217 1126 1374 3852 current 3 2	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >20	5 0 68 <1 1027 1217 1126 1374 3852 current 3 2 0	 history1 	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc 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 imit/base >20 20 imit/base >3	5 0 68 <1 1027 1217 1126 1374 3852 current 3 2 0 0	 history1 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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >20 20 imit/base >3	5 0 68 <1 1027 1217 1126 1374 3852 <u>current</u> 3 2 0 <u>current</u> 0.6	 history1 history1 history1	 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >20 <i>limit/base</i> >3 >20	5 0 68 <1 1027 1217 1126 1374 3852 <i>current</i> 3 2 0 <i>current</i> 0.6 7.3	 history1 history1 history1	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 TS ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >20 <i>imit/base</i> >3 >20 >30 <i>imit/base</i>	5 0 68 <1 1027 1217 1126 1374 3852 <u>current</u> 3 2 0 <u>current</u> 0.6 7.3 19.4	 history1 history1 history1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >20 <i>imit/base</i> >3 >20 >30 <i>imit/base</i>	5 0 68 <1 1027 1217 1126 1374 3852 <i>current</i> 3 2 0 <i>current</i> 0.6 7.3 19.4 <i>current</i>	 history1 history1 history1 history1	history2 history2 history2 history2 history2



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	VISUAL		method				history2
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
Auo24/23 -	Appearance	scalar	*Visual	NORML	NORML		
Aug 2	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	12.00	11.7		
	GRAPHS						
	Ferrous Alloys						
	8 -						
	o T						
	6						
	E d						
	2						

	33		******	/23			
	Aug24/23			Aug24/23			
	⊲ Non-ferrous Meta	de		A			
	¹⁰ T :						
	copper						
	8 - lead						
	6						
	6						
	8 6 4 2						
	8 6 4 2			24/23			
				Aug24/23			
	Viscosity @ 100°	c		Aug24/23	Base Number		
	Viscosity @ 100°	C			T		
	Viscosity @ 100°	C		9.]		
	Viscosity @ 100°0	C		9.]		
	Viscosity @ 100°0	C		9. 8. (6) 7.1 20 0.1 20) - 		
	Viscosity @ 100°	c		9. 8. (6) 7.1 20 0.1 20) - 		
	Viscosity @ 100°	c		9. 8. (6) 7.1 20 0.1 20) - 		
	Viscosity @ 100°0	C		9.0 8.1 (B) (2) (3) (B) (3) (B) (3) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C)			
	Viscosity @ 100° 4 2 Viscosity @ 100° 5 14 4 2 4 4 2 4 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	c		9.1 8.1 (6)(7).1 (6)(7).1 (6)(7).1 (6)(7).1 (6)(7).1 (6)(7).1 (7)(7)(7)(7)(7)(7)(7)(7)(7)(7)(7)(7)(7)(
	Viscosity @ 100° 4 2 Viscosity @ 100° 5 14 4 5 10 4 4 5 6 4 4 5 10 6 10 10 10 10 10 10 10 10 10 10	C		9.1 8.1 (6)(7).1 (6)(7).1 (6)(7).1 (6)(7).1 (6)(7).1 (6)(7).1 (7)(7)(7)(7)(7)(7)(7)(7)(7)(7)(7)(7)(7)() 		
	Viscosity @ 100° 4 2 Viscosity @ 100° 5 14 4 2 4 4 2 4 4 2 4 4 4 4 4 4 4 4 4 4 4 4 4	C		9.0 8.1 (D) 7.1 (D) 6.1 (D) 5.1 94.1, 94.1, 92.2, 1.1			
	Viscosity @ 100° Viscosity @ 100° Abnomal Base ECVr20ry			9.0 8.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9	Aug24/23	o. Shoe 1070. Sum	
Laboratory Sample No	Viscosity @ 100° Viscosity @ 100° boomal boomal contraction c	501 Madii		9.0 8.1 (B)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)	Aug24/23	e - Shop 1072 - Sup	
AR Sample No.	Viscosity @ 100° Viscosity @ 100° boomal boomal boomal boomal colored	501 Madia	d : 28 /	9.0 8.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9.1 9	Aug24/23		Division Stre
	Viscosity @ 100° Viscosity @ 100° be compared by the second seco	501 Madia Received Diagnos	d : 28 / ed : 28 /	9.0 8.1 (B)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)	Aug24/23		permarket-Elizabe Division Stree Elizabeth, I US 0720
AB Lab Number Unique Numbe 12367 Test Package	Viscosity @ 100% Viscosity @ 100%	501 Madia Received Diagnos Diagnost	d : 28 / ed : 28 / tician : We	9.1 (a) (b)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)	Aug24/23	505 Contact: N	Division Stre Elizabeth, N US 0720 Normand Briz
Sample No. Lab Number Unique Number Test Package	Viscosity @ 100° Viscosity @ 100° ber : WearCheck USA - : PCA0100418 : 05935956 er : 10621227	501 Madia Received Diagnos Diagnost	d : 28 / ed : 28 / tician : We 800-237-1369	9.1 (a)(b)(b)(b)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)(c)	Aug24/23	505 Contact: N	Division Stre Elizabeth, I US 0720