

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area (AU669W) Supermarket Machine Id FREIGHTLINER 107A1808 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.

			May2023	AUG2U23		
SAMPLE INFORM	IATION	method				history2
Sample Number		Client Info		PCA0104825	PCA0096006	
Sample Date		Client Info		28 Aug 2023	11 May 2023	
Machine Age	mls	Client Info		281336	267128	
Oil Age	mls	Client Info		14158	25723	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATIO	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method	>5	NEG	NEG	
Ş				NEG	NEG	
WEAR METALS	5	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	11	18	
Chromium	ppm	ASTM D5185m	>5	<1	1	
Nickel	ppm	ASTM D5185m	>2	0	<1	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>30	1	7	
Lead	ppm	ASTM D5185m	>30	0	0	
Copper	ppm	ASTM D5185m	>150	4	7	
Tin	ppm	ASTM D5185m	>5	<1	<1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	3	8	
Barium	ppm	ASTM D5185m	0	0	0	
Molybdenum	ppm	ASTM D5185m	50	63	57	
Molybdenum Manganese		ASTM D5185m		63 <1	57 <1	
Manganese	ppm ppm					
Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	<1 1023	<1	
Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 950	<1	<1 818	
Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050	<1 1023 1206 1043	<1 818 1234 995	
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995	<1 1023 1206	<1 818 1234	
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180	<1 1023 1206 1043 1300	<1 818 1234 995 1217	
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base	<1 1023 1206 1043 1300 3539	<1 818 1234 995 1217 2829	
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	0 950 1050 995 1180 2600 limit/base	<1 1023 1206 1043 1300 3539 current	<1 818 1234 995 1217 2829 history1	
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	0 950 1050 995 1180 2600 limit/base >20	<1 1023 1206 1043 1300 3539 current 4	<1 818 1234 995 1217 2829 history1 4	 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm S ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >20	<1 1023 1206 1043 1300 3539 current 4 1	<1 818 1234 995 1217 2829 history1 4 0	 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm S ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 imit/base >20 imit/base	<1 1023 1206 1043 1300 3539 current 4 1 1 1 current	<1 818 1234 995 1217 2829 history1 4 0 4 4 0 4 history1	 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 imit/base >20 imit/base >3	<1 1023 1206 1043 1300 3539 current 4 1 1 1 current 0.7	<1 818 1234 995 1217 2829 history1 4 0 4 Nistory1 0.9	 history2 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm S ppm ppm ppm	ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >20 limit/base >20 limit/base	<1 1023 1206 1043 1300 3539 current 4 1 1 current 0.7 8.0	<1 818 1234 995 1217 2829 history1 4 0 4 0 4 0 0 4 history1 0.9 9.1	 history2 history2
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	0 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 >30	<1 1023 1206 1043 1300 3539 <u>current</u> 4 1 1 1 <u>current</u> 0.7 8.0 19.4	<1 818 1234 995 1217 2829 history1 4 0 4 0 4 history1 0.9 9.1 22.4	 history2 history2 history2
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 D7844 *ASTM D7624 *ASTM D7624	0 950 1050 995 1180 2600 imit/base >20 20 imit/base >3 >20 30 imit/base	<1 1023 1206 1043 1300 3539 current 4 1 1 0.7 8.0 19.4 current	<1 818 1234 995 1217 2829 history1 4 0 4 0 4 0 9 9.1 22.4 history1	 history2 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 950 1050 995 1180 2600 imit/base >20 20 imit/base >3 >20 30 imit/base	<1 1023 1206 1043 1300 3539 <u>current</u> 4 1 1 1 <u>current</u> 0.7 8.0 19.4	<1 818 1234 995 1217 2829 history1 4 0 4 0 4 history1 0.9 9.1 22.4	 history2 history2 history2

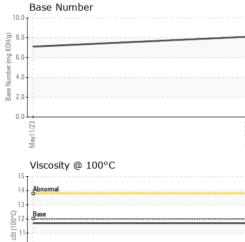


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8 May11/23

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OIL ANALYSIS REPORT



	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	
8/23	Appearance	scalar	*Visual	NORML	NORML	NORML	
Aug28/23	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
	Free Water	scalar	*Visual	20.2	NEG	NEG	
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	12.00	11.7	11.7	
	GRAPHS						
	Ferrous Alloys						
	¹⁸ T						
	16- iron chromium	_					
	14 - nickel						
	12 -			/			
mqq	10						
L.	8-						
	6						
	4						
	2						
	2	****************		53			
	May11/23			Aug28/23			
				7			
				4			
	Non-ferrous Metal	s		4			
	¹⁰ T	S		<			
	copper	S		P			
	copper	s		A			
	8 copper	s		A			
mdd	8 copper	S		4			
	8 copper	S		4			
	8 copper	s		4			
	8 copper	S					
	8 copper	S		<			
	copper 8 6 4 2	S					
	8 copper	S		Aug28/23			
	copper 8 6 4 2				Base Number		
udd	Copper lead tin copper lead tin tin tin tin tin tin tin tin tin tin				Base Number	-	
udd	Copper lead tin copper lead tin tin Viscosity @ 100°C			9.0 8.0	Ī		
udd	Copper lead tin copper lead tin tin tin tin tin tin tin tin tin tin			9.0 8.0	Ī		
udd	Copper lead tin copper lead tin Viscosity @ 100°C			9.0 8.0	Ī		
udd	Copper lead tin copper lead tin Viscosity @ 100°C			0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0			
udd	Copper lead tin copper lead tin Viscosity @ 100°C			0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		-	
cSt (100-C)	Viscosity @ 100°C			0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0		-	
cSt (100-C)	Copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper lead tin copper ti			9.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9			
cSt (100-C)	Copper lead tin lead viscosity @ 100°C			9.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9			
cSt (100-C)	Copper lead tin lead viscosity @ 100°C			9.0 8.0 9.1 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2			
cSt (100°C)	Copper lead tin lead viscosity @ 100°C			9.0 8.0 9.1 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2 9.2			
cSt (100-C)	Copper lead tin lead viscosity @ 100°C			9.0 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9			
mqq (3100°C)	Copper lead tin lead viscosity @ 100°C			Aug28/23 Aug	May11/23		
Loopt Jacobia	Copper lead tin lead Viscosity @ 100°C	501 Madis		8.0 8.0 (http://www.see 8.	May11/23	ice - Shop 1072 - Sup	ermarket-Elizabe
oratory pple No.	Copper lead tin lead viscosity @ 100°C	501 Madis Received	d : 13 S	EZU820ny FUE COURCE FUE FUE COURCE FUE FUE COURCE FUE FUE FUE FUE FUE FUE FUE FUE FUE FUE	May11/23	ice - Shop 1072 - Sup	ermarket-Elizabe Division Stre
ratory ble No. Jumber	Copper lead tin copper lead viscosity @ 100°C copper tin copper lead lead lead lead lead lead lead lead	501 Madia Received	d :13 9 ed :15 9	ECURCOMP ECURCO	May11/23	ice - Shop 1072 - Sup	Division Stree Elizabeth, N
oratory pile No. Number ue Number	Copper lead tin bead viscosity @ 100°C bead viscosity @ 100°C bead bead bead copper tin bead copper tin bead copper tin bead copper tin bead copper tin bead copper tin tin copper tin tin tin tin tin tin tin tin tin tin tin tin tin	501 Madis Received	d :13 9 ed :15 9	EZU820ny FUE COURCE FUE FUE COURCE FUE FUE COURCE FUE FUE FUE FUE FUE FUE FUE FUE FUE FUE	May11/23	ice - Shop 1072 - Sup 505	ermarket-Elizabe Division Stre Elizabeth, N US 0720
ratory ple No. Number re Number Package	Copper lead tin copper lead viscosity @ 100°C copper tin copper lead lead lead lead lead lead lead lead	501 Madia Received Diagnost	d : 13 9 ed : 15 9 ician : We	Sep 2023 Sep 2023 s Davis	May11/23	ice - Shop 1072 - Sup 505 Contact: N	ermarket-Elizabe Division Stre Elizabeth, N

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