

OIL ANALYSIS REPORT

NOT GIVEN **FREIGHTLINER 673949**

Component **Diesel Engine**

PETRO CANADA DURON SHP 10W30 (--- QTS)

Sample Rating Trend



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

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	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 104042 101771 99260 Oil Age mls Client Info 0 0 0 Oil Changed Client Info Not Changd Not Changd NoRMAL NORMAL Sample Status Image: Client Info NoRMAL NORMAL NORMAL NORMAL CONTAMINATION method Imitibase current history1 history2 Fuel WC Method >3.0 <1.0 <1.0 <1.0 Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 11 9 15 Kron ppm ASTM D5185m >20 11 9 15 Chromium ppm ASTM D5185m >2 0 0 0 Iron ppm ASTM D5185m >2 0 0 0 Iron	Sample Number		Client Info		PCA0101345	PCA0089720	PCA0081924
Machine Age mls Client Info 104042 101771 99260 Oil Age mls Client Info 0 0 0 Oil Changed Client Info Not Changd Not Changd NoRMAL NORMAL Sample Status Image: Client Info NoRMAL NORMAL NORMAL NORMAL CONTAMINATION method Imitibase current history1 history2 Fuel WC Method >3.0 <1.0 <1.0 <1.0 Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 11 9 15 Kron ppm ASTM D5185m >20 11 9 15 Chromium ppm ASTM D5185m >2 0 0 0 Iron ppm ASTM D5185m >2 0 0 0 Iron	Sample Date		Client Info		08 Jul 2023	06 Feb 2023	21 Oct 2022
Oil Age mls Client Info Not Changd Not Changd NORMAL O O Sample Status Client Info Not Changd NORMAL Not Changd NORMAL Not Changd NORMAL Changed NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method 3.0 <1.0	Machine Age	mls	Client Info		104042	101771	99260
Oil Changed Sample Status Client Info MoRMAL Not Changd NORMAL Not Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL CONTAMINATION method limit/base current bistory1 bistory2 Fuel WC Method NEG NEG NEG WEAR METALS method limit/base current history1 bistory2 Iron ppm ASTM D5185m >20 -1 <1		mls	Client Info		0	0	0
Sample Status	Oil Changed		Client Info		Not Changd	Not Changd	Changed
Fuel							
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 11 9 15 Chromium ppm ASTM D5185m >20 <1 <1 2 Nickel ppm ASTM D5185m >2 <1 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >30 6 6 8 Lead ppm ASTM D5185m >30 0 0 0 Copper ppm ASTM D5185m >30 2 1 4 Tin ppm ASTM D5185m >15 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 <1 1 Boron ppm ASTM D5185m 0 0 <1 0<	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >20 <1	Iron	ppm	ASTM D5185m	>200	11	9	15
Nickel ppm ASTM D5185m >2 <1	-						
Titanium ppm ASTM D5185m >2 0 0 <1							0
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >30 6 6 8 Lead ppm ASTM D5185m >30 0 0 0 Copper ppm ASTM D5185m >30 2 1 4 Tin ppm ASTM D5185m >15 <1	Titanium	• • • • • • • • • • • • • • • • • • • •		>2	0	0	<1
Aluminum							
Lead	Aluminum			>30		6	8
Copper ppm ASTM D5185m >30 2 1 4 Tin ppm ASTM D5185m >15 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 2 17 19 6 Barium ppm ASTM D5185m 0 0 <1 0 Molybdenum ppm ASTM D5185m 0 64 62 59 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 829 868 887 Calcium ppm ASTM D5185m 905 995 995 994 994 Zinc ppm ASTM D5185m 1180 1159 1154 1205 Sulfur ppm ASTM D5185m 2600	Lead		ASTM D5185m	>30	0	0	0
Tin ppm ASTM D5185m >15 <1	Copper	• • • • • • • • • • • • • • • • • • • •	ASTM D5185m	>30	2	1	4
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 17 19 6 Barium ppm ASTM D5185m 0 0 <1			ASTM D5185m	>15	<1	<1	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 17 19 6 Barium ppm ASTM D5185m 0 0 <1 0 Molybdenum ppm ASTM D5185m 50 64 62 59 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 829 868 887 Calcium ppm ASTM D5185m 995 995 949 994 Zinc ppm ASTM D5185m 995 995 949 994 Zinc ppm ASTM D5185m 2600 3118 3510 3301 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4	Vanadium				0	0	0
Boron	Cadmium		ASTM D5185m			0	0
Barium ppm ASTM D5185m 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Barium ppm ASTM D5185m 0 0 <1	Boron	ppm	ASTM D5185m	2	17	19	6
Molybdenum ppm ASTM D5185m 50 64 62 59 Manganese ppm ASTM D5185m 0 <1	Barium	• • • • • • • • • • • • • • • • • • • •	ASTM D5185m	0	0	<1	
Manganese ppm ASTM D5185m 0 <1	Molybdenum		ASTM D5185m	50	64	62	59
Magnesium ppm ASTM D5185m 950 829 868 887 Calcium ppm ASTM D5185m 1050 1124 1063 1055 Phosphorus ppm ASTM D5185m 995 995 949 994 Zinc ppm ASTM D5185m 1180 1159 1154 1205 Sulfur ppm ASTM D5185m 2600 3118 3510 3301 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 3 3 Sodium ppm ASTM D5185m >20 7 4 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 6.3 5.6 8.1 Sulfation Abs/:nm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION met	•		ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 995 995 949 994 Zinc ppm ASTM D5185m 1180 1159 1154 1205 Sulfur ppm ASTM D5185m 2600 3118 3510 3301 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 3 3 Sodium ppm ASTM D5185m >0 <1 2 Potassium ppm ASTM D5185m >20 7 4 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 6.3 5.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION method lim	-	ppm	ASTM D5185m	950	829	868	887
Phosphorus ppm ASTM D5185m 995 995 949 994 Zinc ppm ASTM D5185m 1180 1159 1154 1205 Sulfur ppm ASTM D5185m 2600 3118 3510 3301 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 3 3 Sodium ppm ASTM D5185m >0 <1 2 Potassium ppm ASTM D5185m >20 7 4 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 6.3 5.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION method lim			ASTM D5185m	1050	1124	1063	1055
Zinc ppm ASTM D5185m 1180 1159 1154 1205 Sulfur ppm ASTM D5185m 2600 3118 3510 3301 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 3 3 Sodium ppm ASTM D5185m 0 <1 2 Potassium ppm ASTM D5185m >20 7 4 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 6.3 5.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414	Phosphorus		ASTM D5185m	995	995	949	994
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 3 3 Sodium ppm ASTM D5185m 0 <1 2 Potassium ppm ASTM D5185m >20 7 4 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 6.3 5.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.2 12.8 15.0	Zinc		ASTM D5185m	1180	1159	1154	1205
Silicon ppm ASTM D5185m >30 4 3 3 Sodium ppm ASTM D5185m 0 <1	Sulfur	ppm	ASTM D5185m	2600	3118	3510	3301
Sodium ppm ASTM D5185m 0 <1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 0 <1	Silicon	ppm	ASTM D5185m	>30	4	3	3
Potassium ppm ASTM D5185m >20 7 4 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.2 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 6.3 5.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.2 12.8 15.0	Sodium		ASTM D5185m		0	<1	2
Soot % % *ASTM D7844 >3 0.2 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 6.3 5.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.2 12.8 15.0	Potassium	ppm	ASTM D5185m	>20	7	4	8
Nitration Abs/cm *ASTM D7624 >20 6.3 5.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.2 12.8 15.0	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 6.3 5.6 8.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.2 12.8 15.0	Soot %	%	*ASTM D7844	>3	0.2	0.2	0.3
Sulfation Abs/.1mm *ASTM D7415 >30 17.4 17.2 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.2 12.8 15.0							
Oxidation Abs/.1mm *ASTM D7414 >25 13.2 12.8 15.0							
		Abs/.1mm	*ASTM D7415	>30	17.4	17.2	19.3
	Sulfation						
	Sulfation FLUID DEGRAE	DATION	method	limit/base	current	history1	history2



OIL ANALYSIS REPORT







Laboratory Sample No. Lab Number

Unique Number

: 05899651 : 10561007

: PCA0101345

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 17 Jul 2023 Diagnosed Diagnostician

Feb18/22

: 18 Jul 2023 : Wes Davis

Jct21/22

Base 2.0 0.0

Test Package : MOB 1 (Additional Tests: TBN) To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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)

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