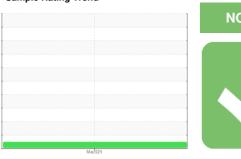


OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id
326735
Component

Diesel Engine

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

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. 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 acceptable for the time in service.

Sample Date Client Info 19 Mar 2024	RTS)				Mar2024		
Sample Number Client Info PCA0121474		MATION		1: 1: 0			1:
Sample Date Client Info 19 Mar 2024 Machine Age mis Client Info 15693 Oil Age mis Client Info 15693 Oil Changed Client Info Changed Sample Status NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 Water WC Method >0.2 NEG Glycol WC Method NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >100 124 Chromium ppm ASTM 05185m >20 2 Silver ppm ASTM 05185m >4 <1 Silver ppm ASTM 05185m >3 0 Silver ppm ASTM 05185m >3 0 Silver ppm ASTM 05185m >3 0 Aluminum ppm ASTM 05185m >3 0 Copper ppm ASTM 05185m >30 36 Tin ppm ASTM 05185m >15 3 Vanadium ppm ASTM 05185m 0 Tin ppm ASTM 05185m 0 Tin ppm ASTM 05185m >15 3 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM 05185m 0 0 ADDITIVES method limit/base current history1 history2 Barium ppm ASTM 05185m 50 41 ADDITIVES method limit/base current history1 history2 Cacleium ppm ASTM 05185m 950 524 Cacleium ppm ASTM 05185m 950 524 Calcium ppm ASTM 05185m 950 524 CONTAMINANTS method limit/base current history1 history2 CONTAMINANTS method limit/base current history1 history2 Soot % % ASTM 05185m >20 35	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 15693 Oil Age mls Client Info 15693 Oil Changed Client Info 15693 Oil Changed Client Info Changed Sample Status NORMAL OCONTAMINATION method limit/base current history1 history2 Fuel WC Method NEG Water WC Method NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >0 2 2 Chromium ppm ASTM 05185m >20 2 Chromium ppm ASTM 05185m >4 <1 Titanium ppm ASTM 05185m >3 0 Silver ppm ASTM 05185m >40 0 Capper ppm ASTM 05185m >40 0 Capper ppm ASTM 05185m >10 Cadmium ppm ASTM 05185m >15 3 Vanadium ppm ASTM 05185m 0 Cadmium ppm ASTM 05185m 0 ASTM 05185m 0 Cadmium ppm ASTM 05185m 0 ASTM 05185m 0 ASTM 05185m 0 0 0 0 0 ASTM 05185m 0 0 0 0 0 ASTM 05185m 0 0 0 0 0	Sample Number						
Oil Age mls Client Info 15693	Sample Date		Client Info		19 Mar 2024		
Contamped Client Info NoRMAL Changed Contample Status Contample Status Contample Contample Status Contample S							
CONTAMINATION method mill/base current history1 history2	· ·	mls					
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0			Client Info		_		
Fuel	Sample Status				NORMAL		
Water Glycol WC Method >0.2 NEG	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 124 Chromium ppm ASTM D5185m >20 2 Nickel ppm ASTM D5185m >4 <1	Water		WC Method	>0.2	NEG		
Common	Glycol		WC Method		NEG		
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	124		
Titanium	Chromium	ppm	ASTM D5185m	>20	2		
Silver	Nickel	ppm	ASTM D5185m	>4	<1		
Aluminum ppm ASTM D5185m >20 22 Lead ppm ASTM D5185m >40 0 Copper ppm ASTM D5185m >330 36 Tin ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 41 Manganese ppm ASTM D5185m 950 524 Magnesium ppm ASTM D5185m 995 720 </td <td>Titanium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td>0</td> <td></td> <td></td>	Titanium	ppm	ASTM D5185m		0		
Lead	Silver	ppm	ASTM D5185m	>3	0		
Copper ppm ASTM D5185m >330 36 Tin ppm ASTM D5185m >15 3 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 50 41 Manganese ppm ASTM D5185m 0 10 Magnesium ppm ASTM D5185m 950 524 Calcium ppm ASTM D5185m 995 720 Phosphorus ppm ASTM D5185m 2600 2434	Aluminum	ppm	ASTM D5185m	>20	22		
Tin	Lead	ppm	ASTM D5185m	>40	0		
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ADDITIVES	Vanadium	ppm	ASTM D5185m		-		
Boron	Cadmium	ppm	ASTM D5185m		0		
Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 50 41 Manganese ppm ASTM D5185m 0 10 Magnesium ppm ASTM D5185m 950 524 Calcium ppm ASTM D5185m 1050 1755 Phosphorus ppm ASTM D5185m 995 720 Zinc ppm ASTM D5185m 995 720 Sulfur ppm ASTM D5185m 2600 2434 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 Sodium ppm ASTM D5185m >20 35 Potassium ppm ASTM D7844	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 41 Manganese ppm ASTM D5185m 0 10 Magnesium ppm ASTM D5185m 950 524 Calcium ppm ASTM D5185m 1050 1755 Phosphorus ppm ASTM D5185m 995 720 Zinc ppm ASTM D5185m 1180 892 Sulfur ppm ASTM D5185m 2600 2434 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base curr	Boron	ppm	ASTM D5185m	2	41		
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Magnesium ppm ASTM D5185m 950 524 Calcium ppm ASTM D5185m 1050 1755 Phosphorus ppm ASTM D5185m 995 720 Zinc ppm ASTM D5185m 1180 892 Sulfur ppm ASTM D5185m 2600 2434 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 Sodium ppm ASTM D5185m >25 13 Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7415	Molybdenum	ppm	ASTM D5185m	50	41		
Calcium ppm ASTM D5185m 1 050 1755 Phosphorus ppm ASTM D5185m 995 720 Zinc ppm ASTM D5185m 1180 892 Sulfur ppm ASTM D5185m 2600 2434 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 Sodium ppm ASTM D5185m >20 35 Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/:1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION *ASTM D7414 <	Manganese	ppm	ASTM D5185m	0	10		
Phosphorus ppm ASTM D5185m 995 720 Zinc ppm ASTM D5185m 1180 892 Sulfur ppm ASTM D5185m 2600 2434 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 Sodium ppm ASTM D5185m >20 35 Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method <td< td=""><td>Magnesium</td><td>ppm</td><td>ASTM D5185m</td><td>950</td><td>524</td><td></td><td></td></td<>	Magnesium	ppm	ASTM D5185m	950	524		
Zinc ppm ASTM D5185m 1180 892 Sulfur ppm ASTM D5185m 2600 2434 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414	Calcium	ppm	ASTM D5185m	1050	1755		
Sulfur ppm ASTM D5185m 2600 2434 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.1	Phosphorus	ppm	ASTM D5185m	995	720		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 13 Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.1		ppm					
Silicon ppm ASTM D5185m >25 13 Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.1	Sulfur	ppm	ASTM D5185m	2600	2434		
Sodium ppm ASTM D5185m 8 Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 35 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.1	Silicon	ppm	ASTM D5185m	>25	13		
INFRA-RED	Sodium	ppm	ASTM D5185m		8		
Soot % % *ASTM D7844 >3 0.6 Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.1	Potassium	ppm	ASTM D5185m	>20	35		
Nitration Abs/cm *ASTM D7624 >20 11.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.1	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.1	Soot %	%	*ASTM D7844	>3	0.6		
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.1	Nitration	Abs/cm	*ASTM D7624	>20	11.1		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.8		
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	24.1		
	Base Number (BN)		ASTM D2896		8.2		



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0121474 Lab Number : 06143819

Unique Number : 10968627

Diagnosed Test Package : MOB 1 (Additional Tests: TBN)

To discuss this sample report, contact Customer Service at 1-800-237-1369. st - 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)

Received

Tested

: 10 Apr 2024

: 11 Apr 2024

: 12 Apr 2024 - Angela Borella

MILLER TRUCK LEASING #118

2196 BENNETT ROAD PHILADELPHIA, PA

US 19116 Contact: ROSTY VITER rviter@millertransgroup.com

T: (215)552-9832 F: (215)552-9892

Contact/Location: ROSTY VITER - MILPHINE