

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



721535 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- 0

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

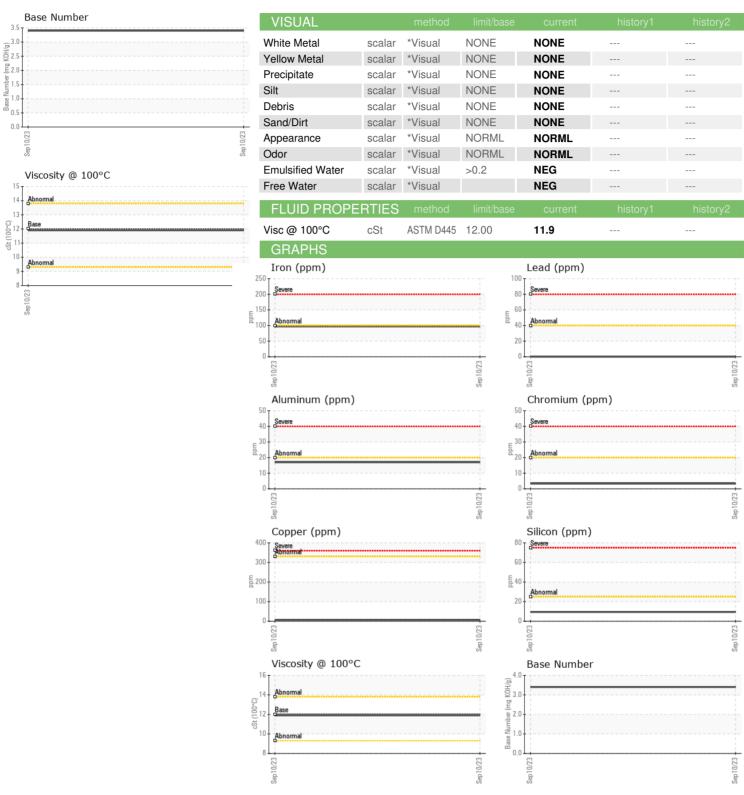
Fluid Condition

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

Fuel	GAL)				Sep2023		
Sample Date Client Info 10 Sep 2023	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Client Info	Sample Number		Client Info		PCA0105310		
Machine Age mls Client Info 301816			Client Info		10 Sep 2023		
Oil Age mls Client Info 165458	•	mls	Client Info		-		
Oil Changed Client Info Not Changd NORMAL Not Changd NORMAL Normal NORMAL Normal NORMAL Normal NORMAL Normal Norm		mls	Client Info		165458		
CONTAMINATION	-		Client Info		Not Changd		
Fuel	Sample Status						
WEAR METALS	CONTAMINA	ΓΙΟΝ	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 97 Chromium ppm ASTM D5185m >20 3 Nickel ppm ASTM D5185m >4 <1	Fuel		WC Method	>5	<1.0		
Commission	Glycol		WC Method		NEG		
Chromium	WEAR METAI	LS	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	97		
Titanium	Chromium	ppm	ASTM D5185m	>20	3		
Silver	Nickel	ppm	ASTM D5185m	>4	<1		
Aluminum ppm ASTM D5185m >20 17 Lead ppm ASTM D5185m >40 0 Copper ppm ASTM D5185m >330 8 Tin ppm ASTM D5185m >15 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 50 64 Manganesium ppm ASTM D5185m 950 945 Calcium ppm ASTM D5185m 90 1344	Titanium	ppm	ASTM D5185m		7		
Lead	Silver	ppm	ASTM D5185m	>3	0		
Copper	Aluminum	ppm	ASTM D5185m	>20	17		
Copper ppm ASTM D5185m >330 8 Tin ppm ASTM D5185m >15 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 50 64 Manganese ppm ASTM D5185m 0 1 Magnesium ppm ASTM D5185m 950 945 Calcium ppm ASTM D5185m 995 1095 Phosphorus ppm ASTM D5185m 995 1095	Lead	ppm	ASTM D5185m	>40	0		
Trin	Copper		ASTM D5185m	>330	8		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 2 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 50 64 Manganese ppm ASTM D5185m 950 945 Calcium ppm ASTM D5185m 950 945 Zinc ppm ASTM D5185m 995 1095 Zinc ppm ASTM D5185m 995 1095 Sulfur ppm ASTM D5185m 2600 2941 CONTAMINANTS method limit/base current history1			ASTM D5185m	>15	0		
ADDITIVES	Vanadium		ASTM D5185m		0		
Boron ppm ASTM D5185m 2 2 2 Barium ppm ASTM D5185m 0 0 0 0 0 0 0 0 0	Cadmium		ASTM D5185m		0		
Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 50 64 Manganese ppm ASTM D5185m 0 1 Magnesium ppm ASTM D5185m 950 945 Calcium ppm ASTM D5185m 1050 1344 Phosphorus ppm ASTM D5185m 995 1095 Zinc ppm ASTM D5185m 2600 2941 Sulfur ppm ASTM D5185m 2600 2941 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m >20 26 INFRA-RED method	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 64 Manganese ppm ASTM D5185m 0 1 Magnesium ppm ASTM D5185m 950 945 Calcium ppm ASTM D5185m 1050 1344 Phosphorus ppm ASTM D5185m 1180 1357 Zinc ppm ASTM D5185m 2600 2941 Sulfur ppm ASTM D5185m 2600 2941 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m 20 26 Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base	Boron	ppm	ASTM D5185m	2	2		
Manganese ppm ASTM D5185m 0 1 Magnesium ppm ASTM D5185m 950 945 Calcium ppm ASTM D5185m 1050 1344 Phosphorus ppm ASTM D5185m 995 1095 Zinc ppm ASTM D5185m 2600 2941 Sulfur ppm ASTM D5185m 2600 2941 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3	Barium	ppm	ASTM D5185m	0	0		
Magnesium ppm ASTM D5185m 950 945 Calcium ppm ASTM D5185m 1050 1344 Phosphorus ppm ASTM D5185m 995 1095 Zinc ppm ASTM D5185m 1180 1357 Sulfur ppm ASTM D5185m 2600 2941 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.7 Sulfation Abs/.1mm *ASTM D7415 >30 <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>50</td> <td>64</td> <td></td> <td></td>	Molybdenum	ppm	ASTM D5185m	50	64		
Magnesium ppm ASTM D5185m 950 945 Calcium ppm ASTM D5185m 1050 1344 Phosphorus ppm ASTM D5185m 995 1095 Zinc ppm ASTM D5185m 1180 1357 Sulfur ppm ASTM D5185m 2600 2941 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.7 Sulfation Abs/.1mm *ASTM D7415 >30 <td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <td>1</td> <td></td> <td></td>	Manganese	ppm	ASTM D5185m	0	1		
Phosphorus ppm ASTM D5185m 995 1095 Zinc ppm ASTM D5185m 1180 1357 Sulfur ppm ASTM D5185m 2600 2941 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.7 Nitration Abs/cm *ASTM D7624 >20 15.2 Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/ba		ppm	ASTM D5185m	950	945		
Zinc ppm ASTM D5185m 1180 1357 Sulfur ppm ASTM D5185m 2600 2941 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.7 Nitration Abs/cm *ASTM D7624 >20 15.2 Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414	Calcium	ppm	ASTM D5185m	1050	1344		
Zinc ppm ASTM D5185m 1180 1357 Sulfur ppm ASTM D5185m 2600 2941	Phosphorus	ppm	ASTM D5185m	995	1095		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.7 Nitration Abs/cm *ASTM D7624 >20 15.2 Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.0	Zinc		ASTM D5185m	1180	1357		
Silicon ppm ASTM D5185m >25 9	Sulfur	ppm	ASTM D5185m	2600	2941		
Sodium ppm ASTM D5185m 2 Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.7 Nitration Abs/cm *ASTM D7624 >20 15.2 Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.0	CONTAMINA	NTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.7 Nitration Abs/cm *ASTM D7624 >20 15.2 Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.0	Silicon	ppm	ASTM D5185m	>25	9		
Potassium ppm ASTM D5185m >20 26 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.7 Nitration Abs/cm *ASTM D7624 >20 15.2 Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.0	Sodium		ASTM D5185m				
Soot % % *ASTM D7844 >3 1.7 Nitration Abs/cm *ASTM D7624 >20 15.2 Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.0	Potassium	ppm	ASTM D5185m	>20	26		
Nitration Abs/cm *ASTM D7624 >20 15.2 Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.0	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 15.2 Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.0	Soot %	%	*ASTM D7844	>3	1.7		
Sulfation Abs/.1mm *ASTM D7415 >30 29.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 30.0							
Oxidation							
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	30.0		
	Base Number (BN)		ASTM D2896		3.4		



OIL ANALYSIS REPORT







Laboratory Sample No. Lab Number **Unique Number**

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 05955147

: PCA0105310 : 10656360

Received Diagnosed

: 19 Sep 2023 : 21 Sep 2023 Diagnostician : Don Baldridge

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)

MILLER TRUCK LEASING #118

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