

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id **338747** 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

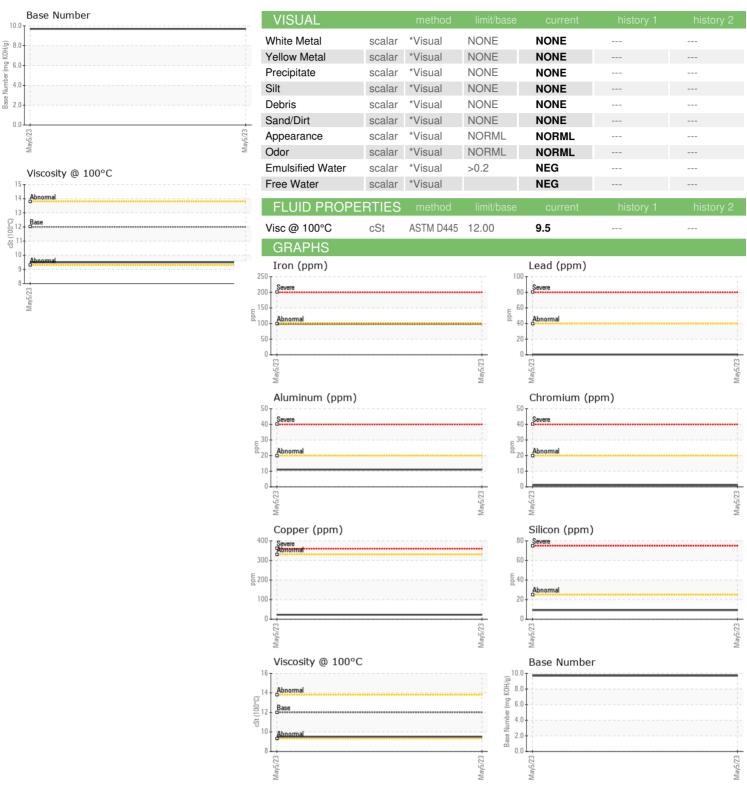
Fluid Condition

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

Sample Number Client Info PCA0097764	QTS)				May/2023		
Sample Date Client Info 13980	SAMPLE INFOR	MATION	method	limit/base	current	history 1	history 2
Sample Date Client Info 13980	Sample Number		Client Info		PCA0097764		
Machine Age mls Client Info 13980 Oil Qap mls Client Info 13980 Oil Changed Client Info Changed Sample Status Imit Dots NORMAL CONTAMINATION method Imit Dots current history 1 history 2 Fuel WC Method NEG WEAR METALS method limit base current history 1 history 2 Iron ppm ASTM D5185m >100 99 WEAR METALS method limit base current history 1 history 2 Iron ppm ASTM D5185m >100 99 Klockel ppm ASTM D5185m >20 1 Titanium ppm ASTM D5185m >30 0 Silver <			Client Info		05 May 2023		
Oil Changed Client Info Changed NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL	•	mls	Client Info		-		
Oil Changed Sample Status Client Info Changed NORMAL	Oil Age	mls	Client Info		13980		
CONTAMINATION	Oil Changed		Client Info		Changed		
Fuel	Sample Status				NORMAL		
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history 1	history 2
WEAR METALS method limit/base current history 1 history 2 Iron ppm ASTM D5185m >100 99 Chromium ppm ASTM D5185m >20 1 Nickel ppm ASTM D5185m >20 1 Titanium ppm ASTM D5185m >3 0 Silver ppm ASTM D5185m >3 0 Aluminum ppm ASTM D5185m >40 -1 Lead ppm ASTM D5185m >40 -1 Copper ppm ASTM D5185m >40 -1 Copper ppm ASTM D5185m >40 -1 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 2	Fuel		WC Method	>5	<1.0		
Iron	Glycol		WC Method		NEG		
Chromium	WEAR METAL	.S	method	limit/base	current	history 1	history 2
Nickel	Iron	ppm	ASTM D5185m	>100	99		
Titanium	Chromium	ppm	ASTM D5185m	>20	1		
Silver	Nickel	ppm	ASTM D5185m	>4	<1		
Aluminum	Titanium	ppm	ASTM D5185m		0		
Lead ppm ASTM D5185m >40 <1 Copper ppm ASTM D5185m >330 23 Tin ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history 1 history 2 Boron ppm ASTM D5185m 0 2 ADDITIVES method limit/base current history 1 history 2 Boron ppm ASTM D5185m 0 2 ADDITIVES method limit/base current history 1 history 2 Boron ppm ASTM D5185m 0 2 Barium ppm ASTM D5185m 0 1654	Silver	ppm	ASTM D5185m	>3	0		
Copper ppm ASTM D5185m >330 23 Tin ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history 1 history 2 Boron ppm ASTM D5185m 0 2 Barium ppm ASTM D5185m 0 2 Molybdenum ppm ASTM D5185m 0 42 Manganese ppm ASTM D5185m 0 10 Magnesium ppm ASTM D5185m 950 457 Calcium ppm ASTM D5185m 1050 1654 Phosphorus ppm ASTM D5185m 2600 2241 <	Aluminum	ppm	ASTM D5185m	>20	11		
Tin ppm ASTM D5185m >15 2	Lead	ppm	ASTM D5185m	>40	<1		
Vanadium ppm ASTM D5185m 0 ADDITIVES method limit/base current history 1 history 2 Boron ppm ASTM D5185m 2 59 Barium ppm ASTM D5185m 0 2 Molybdenum ppm ASTM D5185m 0 42 Manganese ppm ASTM D5185m 0 10 Magnesium ppm ASTM D5185m 950 457 Calcium ppm ASTM D5185m 90 1654 Phosphorus ppm ASTM D5185m 995 737 Zinc ppm ASTM D5185m 2600 2241 Sulfur ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m >20 21<	Copper	ppm	ASTM D5185m	>330	23		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history 1 history 2 Boron ppm ASTM D5185m 2 59 Barium ppm ASTM D5185m 0 2 Molybdenum ppm ASTM D5185m 50 42 Manganese ppm ASTM D5185m 0 10 Magnesium ppm ASTM D5185m 950 457 Calcium ppm ASTM D5185m 995 737 Phosphorus ppm ASTM D5185m 995 737 Zinc ppm ASTM D5185m 2600 2241 Sulfur ppm ASTM D5185m 25 9 Sodium ppm ASTM D5185m >20 21 </td <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>15</td> <td>2</td> <td></td> <td></td>	Tin	ppm	ASTM D5185m	>15	2		
ADDITIVES	Vanadium	ppm	ASTM D5185m		0		
Boron	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history 1	history 2
Molybdenum ppm ASTM D5185m 50 42 Manganese ppm ASTM D5185m 0 10 Magnesium ppm ASTM D5185m 950 457 Calcium ppm ASTM D5185m 1050 1654 Phosphorus ppm ASTM D5185m 995 737 Zinc ppm ASTM D5185m 995 737 Sulfur ppm ASTM D5185m 2600 2241 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m >20 21 Potassium ppm ASTM D5185m >20 21 Soot % *ASTM D7844 >3	Boron	ppm	ASTM D5185m	2	59		
Manganese ppm ASTM D5185m 0 10 Magnesium ppm ASTM D5185m 950 457 Calcium ppm ASTM D5185m 1050 1654 Phosphorus ppm ASTM D5185m 995 737 Zinc ppm ASTM D5185m 1180 876 Sulfur ppm ASTM D5185m 2600 2241 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m >20 21 Potassium ppm ASTM D5185m >20 21 INFRA-RED method limit/base current history 1 history 2 Soot % % ASTM D7624 >20	Barium	ppm	ASTM D5185m	0	2		
Magnesium ppm ASTM D5185m 950 457 Calcium ppm ASTM D5185m 1050 1654 Phosphorus ppm ASTM D5185m 995 737 Zinc ppm ASTM D5185m 1180 876 Sulfur ppm ASTM D5185m 2600 2241 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m >20 21 Potassium ppm ASTM D5185m >20 21 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7624 >20 8.2 Sulfation Abs/.1mm *ASTM D7414	Molybdenum	ppm	ASTM D5185m	50	42		
Calcium ppm ASTM D5185m 1050 1654 Phosphorus ppm ASTM D5185m 995 737 Zinc ppm ASTM D5185m 1180 876 Sulfur ppm ASTM D5185m 2600 2241 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m >20 21 Potassium ppm ASTM D5185m >20 21 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 FLUID DEGRADATION *ASTM D7414	Manganese	ppm	ASTM D5185m	0	10		
Phosphorus ppm ASTM D5185m 995 737 Zinc ppm ASTM D5185m 1180 876 Sulfur ppm ASTM D5185m 2600 2241 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m >20 21 Potassium ppm ASTM D5185m >20 21 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7415 >30 23.2 FLUID DEGRADATION *ASTM D7414 >25 22.7 Oxidation Abs/.1mm *ASTM D7414	Magnesium	ppm	ASTM D5185m	950	457		
Zinc ppm ASTM D5185m 1180 876 Sulfur ppm ASTM D5185m 2600 2241 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m >20 21 Potassium ppm ASTM D5185m >20 21 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm <td< td=""><td>Calcium</td><td>ppm</td><td>ASTM D5185m</td><td>1050</td><td>1654</td><td></td><td></td></td<>	Calcium	ppm	ASTM D5185m	1050	1654		
Sulfur ppm ASTM D5185m 2600 2241 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m <1	Phosphorus	ppm	ASTM D5185m	995	737		
CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m	1180	876		
Silicon ppm ASTM D5185m >25 9 Sodium ppm ASTM D5185m <1 Potassium ppm ASTM D5185m >20 21 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 22.7			ASTM D5185m	2600	2241		
Sodium ppm ASTM D5185m <1 Potassium ppm ASTM D5185m >20 21 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 22.7	CONTAMINAN	ITS	method	limit/base	current	history 1	history 2
Potassium ppm ASTM D5185m >20 21 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 22.7	Silicon	ppm	ASTM D5185m	>25	9		
INFRA-RED	Sodium	ppm	ASTM D5185m		<1		
Soot % % *ASTM D7844 >3 0.2 Nitration Abs/cm *ASTM D7624 >20 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 22.7	Potassium	ppm	ASTM D5185m	>20	21		
Nitration Abs/cm *ASTM D7624 >20 8.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 22.7	INFRA-RED		method	limit/base	current	history 1	history 2
Sulfation Abs/.1mm *ASTM D7415 >30 23.2 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 22.7	Soot %	%	*ASTM D7844	>3	0.2		
FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 22.7	Nitration	Abs/cm	*ASTM D7624	>20	8.2		
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.2		
	FLUID DEGRA	DATION	method	limit/base	current	history 1	history 2
Base Number (BN) mg KOH/g ASTM D2896 9.7	Oxidation	Abs/.1mm	*ASTM D7414	>25	22.7		
	Base Number (BN)	mg KOH/g	ASTM D2896		9.7		



OIL ANALYSIS REPORT





Certificate L2367

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

: PCA0097764 : 05888699 : 10539182

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

: 03 Jul 2023 : 05 Jul 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)

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