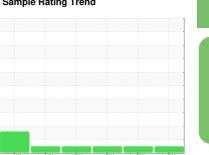


OIL ANALYSIS REPORT

Sample Rating Trend









DT749 Component **Diesel Engine**

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

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

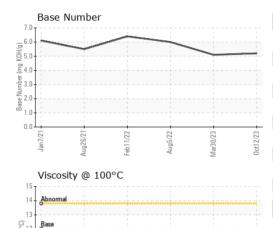
Fluid Condition

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

Client Info PCA0103300 PCA0091206 PCA007478 PCA0103300 PCA0091206 PCA007478 PCA007478	N SHP 10W30 (-	Q15)	Jan 2021	Aug2021 Feb2022	Aug2022 Mar2023	Oct2023	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 154247 121751 102365	Sample Number		Client Info		PCA0103300	PCA0091206	PCA007479
Dil Age	Sample Date		Client Info		12 Oct 2023	30 Mar 2023	05 Aug 2022
Contained Client Info Changed NORMAL NEG NEg	Machine Age	mls	Client Info		154247	121751	102365
NORMAL NORMAL NORMAL NORMAL CONTAMINATION method minit/base current history1 history2 history3 history4 history4 history4 history4 history5 hi	Oil Age	mls	Client Info		32496	0	26809
CONTAMINATION	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 23 28 27 Chromium ppm ASTM D5185m >20 <1	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Concord Conc	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel	ron	ppm	ASTM D5185m	>120	23	28	27
Description	Chromium	ppm	ASTM D5185m	>20	<1	1	1
Silver	Nickel	ppm	ASTM D5185m	>5	3	6	3
Aluminum	Titanium	ppm	ASTM D5185m	>2	0	0	0
Lead	Silver	ppm	ASTM D5185m	>2	0	0	<1
Copper	Aluminum	ppm	ASTM D5185m	>20	4	4	5
Trin	_ead	ppm	ASTM D5185m	>40	<1	<1	<1
Antimony	Copper	ppm	ASTM D5185m	>330	4	8	11
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 2 4 3 Barium ppm ASTM D5185m 0 0 2 0 Molybdenum ppm ASTM D5185m 50 59 64 62 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 950 859 907 916 Calcium ppm ASTM D5185m 995 1041 963 896 Zinc ppm ASTM D5185m 995 1041 963 896 Zinc ppm ASTM D5185m 2600 2360 2340 2339 CONTAMINANTS method limit/base current history1	Γin	ppm	ASTM D5185m	>15	<1	1	1
ADDITIVES	Antimony	ppm	ASTM D5185m				
ADDITIVES	/anadium	ppm	ASTM D5185m		0	0	0
Soron ppm ASTM D5185m 2 2 4 3	Cadmium	ppm	ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 59 64 62 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	2	2	4	3
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 859 907 916 Calcium ppm ASTM D5185m 1050 1115 1162 1082 Phosphorus ppm ASTM D5185m 995 1041 963 896 Zinc ppm ASTM D5185m 1180 1156 1225 1163 Sulfur ppm ASTM D5185m 2600 2360 2340 2339 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 8 5 Sodium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7841	Barium	ppm	ASTM D5185m	0	0	2	0
Magnesium ppm ASTM D5185m 950 859 907 916 Calcium ppm ASTM D5185m 1050 1115 1162 1082 Phosphorus ppm ASTM D5185m 995 1041 963 896 Zinc ppm ASTM D5185m 1180 1156 1225 1163 Sulfur ppm ASTM D5185m 2600 2360 2340 2339 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 8 5 Sodium ppm ASTM D5185m >20 5 6 5 Potassium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7624	Molybdenum	ppm	ASTM D5185m	50	59	64	62
Calcium ppm ASTM D5185m 1050 1115 1162 1082 Phosphorus ppm ASTM D5185m 995 1041 963 896 Zinc ppm ASTM D5185m 1180 1156 1225 1163 Sulfur ppm ASTM D5185m 2600 2360 2340 2339 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 8 5 Sodium ppm ASTM D5185m >20 5 6 5 Potassium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7845 >30 22.8 23.1 23.8 FLUID DEGRADATION method <td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th><1</th> <td><1</td> <td><1</td>	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 995 1041 963 896 Zinc ppm ASTM D5185m 1180 1156 1225 1163 Sulfur ppm ASTM D5185m 2600 2360 2340 2339 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 8 5 Sodium ppm ASTM D5185m >20 5 6 5 Potassium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7	Magnesium	ppm	ASTM D5185m	950	859	907	916
Zinc ppm ASTM D5185m 1180 1156 1225 1163 Sulfur ppm ASTM D5185m 2600 2360 2340 2339 CONTAMINANTS method limit/base current history1 history2 Gilicon ppm ASTM D5185m >25 6 8 5 Sodium ppm ASTM D5185m 8 4 5 Potassium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7624 >20 10.6 10.8 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414	Calcium	ppm	ASTM D5185m	1050	1115	1162	1082
Sulfur ppm ASTM D5185m 2600 2360 2340 2339 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 8 5 Sodium ppm ASTM D5185m >20 5 6 5 Potassium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7624 >20 10.6 10.8 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.6 18.4 19.5	Phosphorus	ppm	ASTM D5185m	995	1041	963	896
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 8 5 Sodium ppm ASTM D5185m 8 4 5 Potassium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7624 >20 10.6 10.8 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.6 18.4 19.5	Zinc	ppm	ASTM D5185m	1180	1156	1225	1163
Silicon ppm ASTM D5185m >25 6 8 5 Sodium ppm ASTM D5185m 8 4 5 Potassium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7624 >20 10.6 10.8 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.6 18.4 19.5	Sulfur	ppm	ASTM D5185m	2600	2360	2340	2339
Sodium ppm ASTM D5185m 8 4 5 Potassium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7624 >20 10.6 10.8 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.6 18.4 19.5	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 5 6 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7624 >20 10.6 10.8 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.6 18.4 19.5	Silicon	ppm	ASTM D5185m	>25	6	8	5
INFRA-RED	Sodium	ppm	ASTM D5185m		8	4	5
Soot % % *ASTM D7844 >4 0.9 0.9 0.9 Nitration Abs/cm *ASTM D7624 >20 10.6 10.8 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.6 18.4 19.5	Potassium	ppm	ASTM D5185m	>20	5	6	5
Nitration Abs/cm *ASTM D7624 >20 10.6 10.8 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.6 18.4 19.5	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 22.8 23.1 23.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.6 18.4 19.5	Soot %	%	*ASTM D7844	>4	0.9	0.9	0.9
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.6 18.4 19.5	Nitration	Abs/cm	*ASTM D7624	>20	10.6	10.8	10.8
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	22.8	23.1	23.8
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 5.2 5.1 6.0	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.6	18.4	19.5
	Base Number (BN)	mg KOH/g	ASTM D2896		5.2	5.1	6.0



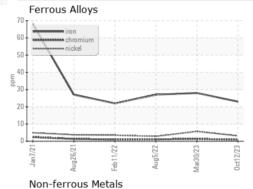
OIL ANALYSIS REPORT

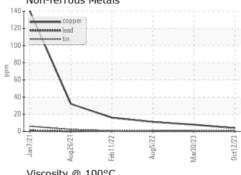


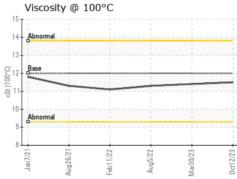
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

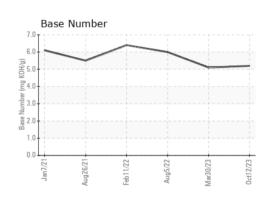
FLUID PROPE	ERITES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.5	11.4	11.3

GRAPHS













Certificate L2367

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

: PCA0103300 : 05994111 : 10722471 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 31 Oct 2023 Diagnosed : 31 Oct 2023

Diagnostician : Wes Davis

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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