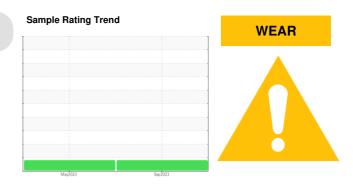


PROBLEM SUMMARY

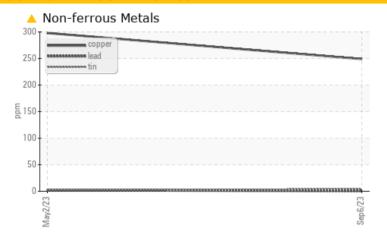
(55225Z) Walgreens Machine Id [Walgreens] 136A63357

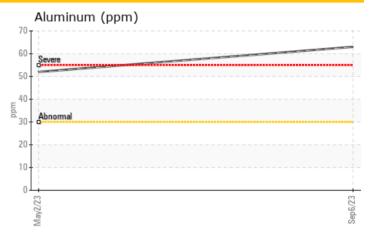
Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)









RECOMMENDATION

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS Sample Status ABNORMAL ABNORMAL Copper ppm ASTM D5185m >150 ▲ 249 ▲ 298 ----

Customer Id: TSV1361
Sample No.: PCA0105904
Lab Number: 05950652
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample			?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

02 May 2023 Diag: Doug Bogart

WEAR



No corrective action is recommended at this time. We recommend an early resample to monitor this condition. The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Test for glycol is negative. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



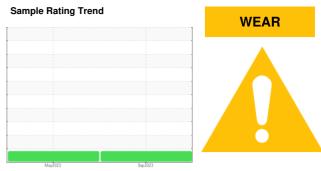


OIL ANALYSIS REPORT

(55225Z) Walgreens [Walgreens] 136A63357

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Test for glycol is negative. There is no indication of any contamination in the oil.

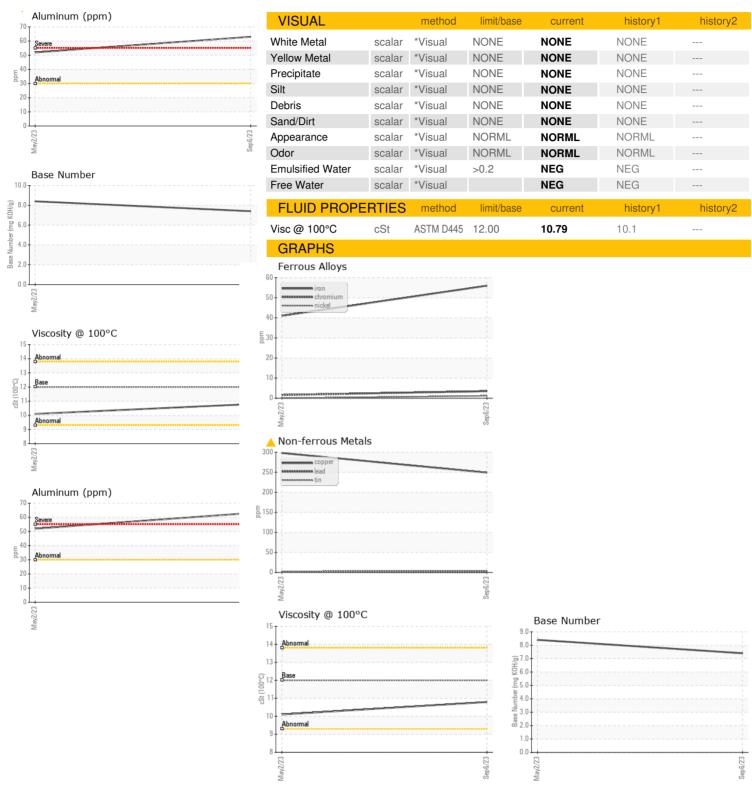
Fluid Condition

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

Sample Date Client Info 06 Sep 2023 02 May 2023	ine)			May2023	Sep2023		
Sample Date	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 56394 31582 Oil Age mls Client Info 31582 31582 Oil Changed Client Info N/A Oil Added Sample Status Image: Contract Info N/A ABNORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method NEG NEG Glycol WC Method NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 56 41 Nickel ppm ASTM D5185m >80 56 41 Nickel ppm ASTM D5185m >30 41 0 Aluminum ppm ASTM D5185m >30 41 0 Lead ppm ASTM D5185m<	Sample Number		Client Info		PCA0105904	PCA0091485	
Machine Age mls Client Info 56394 31582	Sample Date		Client Info		06 Sep 2023	02 May 2023	
Oil Changed Sample Status Client Info N/A Oil Added ABNORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 Glycol WC Method NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 56 41 Chromium ppm ASTM D5185m >80 56 41 Chromium ppm ASTM D5185m >80 56 41 Chromium ppm ASTM D5185m >80 63 52 4 2 Silver ppm ASTM D5185m >30 <1 2 Aluminum ppm ASTM D5185m >30 <1 2 Lead ppm ASTM D5185m >30 <1 2	Machine Age	mls	Client Info		56394		
Oil Changed Sample Status Client Info N/A Oil Added ABNORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 Glycol WC Method NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 56 41 Chromium ppm ASTM D5185m >80 56 41 Chromium ppm ASTM D5185m >80 56 41 Chromium ppm ASTM D5185m >80 63 52 4 2 Silver ppm ASTM D5185m >30 <1 2 Aluminum ppm ASTM D5185m >30 <1 2 Lead ppm ASTM D5185m >30 <1 2	· ·	mls	Client Info		31582	31582	
CONTAMINATION method limit/base current history1 history2	-		Client Info		N/A	Oil Added	
Fuel	Sample Status				ABNORMAL	ABNORMAL	
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 56 41 Chromium ppm ASTM D5185m >5 4 2 Nickel ppm ASTM D5185m >2 1 0 Titanium ppm ASTM D5185m >2 1 0 Silver ppm ASTM D5185m >3 <1 0 Aluminum ppm ASTM D5185m >30 63 52 Lead ppm ASTM D5185m >30 <1 2 Copper ppm ASTM D5185m >55 4 2 Tin ppm ASTM D5185m >5 4 2 Vanadium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1<	CONTAMINATIO	NC	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >8 56 41 Chromium ppm ASTM D5185m >5 4 2 Nickel ppm ASTM D5185m >2 1 0 Titanium ppm ASTM D5185m >3 <1	Fuel		WC Method	>5	<1.0	<1.0	
Iron	Glycol		WC Method			NEG	
Iron	WEAR METALS		method	limit/hase	current	history1	history2
Chromium ppm ASTM D5185m >5 4 2 ··· Nickel ppm ASTM D5185m >2 1 0 ··· Titanium ppm ASTM D5185m >3 <1							Thotory
Nickel							
Titanium ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m >3 <1					-		
Silver				>2			
Aluminum ppm ASTM D5185m >30 63 52 Lead ppm ASTM D5185m >30 <1							
Lead ppm ASTM D5185m >30 <1 2 Copper ppm ASTM D5185m >150 249 ≥ 298 Tin ppm ASTM D5185m >5 4 2 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 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 ADDITIVES method ppm ASTM D5185m 0 0							
Copper ppm ASTM D5185m >150 ▲ 249 ▲ 298 Tin ppm ASTM D5185m >5 4 2 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 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 4 3 Manganese ppm ASTM D5185m 0 4 3 Magnesium ppm ASTM D5185m 950 561 591 Calcium ppm ASTM D5185m 995 758 801 Phosphorus ppm ASTM D5185m 1180 925							
Tin		ppm					
Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 30 42 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 43 45 Manganese ppm ASTM D5185m 0 4 3 Magnesium ppm ASTM D5185m 950 561 591 Calcium ppm ASTM D5185m 995 758 801 Phosphorus ppm ASTM D5185m 995 758 801 Zinc ppm ASTM D5185m 2600 2365 2570 CONTAMINANTS method limit/base current history1 <		ppm					
Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 30 42 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 43 45 Manganese ppm ASTM D5185m 0 4 3 Magnesium ppm ASTM D5185m 950 561 591 Calcium ppm ASTM D5185m 950 561 591 Phosphorus ppm ASTM D5185m 995 758 801 Zinc ppm ASTM D5185m 2600 2365 2570 Sulfur ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m >20 7		ppm		>5	•		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 30 42 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 43 45 Manganese ppm ASTM D5185m 0 4 3 Magnesium ppm ASTM D5185m 950 561 591 Calcium ppm ASTM D5185m 1050 1726 1715 Phosphorus ppm ASTM D5185m 995 758 801 Zinc ppm ASTM D5185m 2600 2365 2570 Sulfur ppm ASTM D5185m 2600 2365 2570 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m	Vanadium	ppm	ASTM D5185m		-		
Boron ppm ASTM D5185m 2 30 42	Cadmium	ppm	ASTM D5185m		0	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 43 45 Manganese ppm ASTM D5185m 0 4 3 Magnesium ppm ASTM D5185m 950 561 591 Calcium ppm ASTM D5185m 1050 1726 1715 Phosphorus ppm ASTM D5185m 995 758 801 Zinc ppm ASTM D5185m 995 758 801 Zinc ppm ASTM D5185m 2600 2365 2570 Sulfur ppm ASTM D5185m 2600 2365 2570 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/	Boron	ppm	ASTM D5185m	2	30	42	
Manganese ppm ASTM D5185m 0 4 3 Magnesium ppm ASTM D5185m 950 561 591 Calcium ppm ASTM D5185m 1050 1726 1715 Phosphorus ppm ASTM D5185m 995 758 801 Zinc ppm ASTM D5185m 1180 925 998 Sulfur ppm ASTM D5185m 2600 2365 2570 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m >20 153 132 Potassium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium ppm ASTM D5185m 950 561 591 Calcium ppm ASTM D5185m 1050 1726 1715 Phosphorus ppm ASTM D5185m 995 758 801 Zinc ppm ASTM D5185m 1180 925 998 Sulfur ppm ASTM D5185m 2600 2365 2570 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m 6 5 Potassium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.4 Sulfation Abs/.1mm *ASTM D7415 >30	Molybdenum	ppm	ASTM D5185m	50	43	45	
Calcium ppm ASTM D5185m 1050 1726 1715 Phosphorus ppm ASTM D5185m 995 758 801 Zinc ppm ASTM D5185m 1180 925 998 Sulfur ppm ASTM D5185m 2600 2365 2570 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m >20 153 132 Potassium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.4 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method l	Manganese	ppm	ASTM D5185m	0	4	3	
Phosphorus ppm ASTM D5185m 995 758 801 Zinc ppm ASTM D5185m 1180 925 998 Sulfur ppm ASTM D5185m 2600 2365 2570 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m 6 5 Potassium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.5 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION *ASTM D7414 >25 <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>950</td> <td>561</td> <td>591</td> <td></td>	Magnesium	ppm	ASTM D5185m	950	561	591	
Zinc ppm ASTM D5185m 1180 925 998 Sulfur ppm ASTM D5185m 2600 2365 2570 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m 6 5 Potassium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.5 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 <t< td=""><td>Calcium</td><td>ppm</td><td>ASTM D5185m</td><td>1050</td><td>1726</td><td>1715</td><td></td></t<>	Calcium	ppm	ASTM D5185m	1050	1726	1715	
Sulfur ppm ASTM D5185m 2600 2365 2570 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m 6 5 Potassium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.5 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.4 23.0	Phosphorus	ppm	ASTM D5185m	995	758	801	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m 6 5 Potassium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.5 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.4 23.0	Zinc	ppm	ASTM D5185m	1180	925	998	
Silicon ppm ASTM D5185m >20 7 6 Sodium ppm ASTM D5185m 6 5 Potassium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.5 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.4 23.0	Sulfur	ppm	ASTM D5185m	2600	2365	2570	
Sodium ppm ASTM D5185m 6 5 Potassium ppm ASTM D5185m >20 153 132 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.5 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.4 23.0	CONTAMINANT	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 153 132	Cilicon						
INFRA-RED	SIIICOH	ppm	ASTM D5185m	>20	7	6	
Soot % *ASTM D7844 >3 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.5 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.4 23.0				>20			
Nitration Abs/cm *ASTM D7624 >20 10.5 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.4 23.0	Sodium	ppm	ASTM D5185m		6	5	
Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.4 23.0	Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	>20	6 153	5 132	
Sulfation Abs/.1mm *ASTM D7415 >30 23.0 23.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 24.4 23.0	Sodium Potassium INFRA-RED	ppm	ASTM D5185m ASTM D5185m method	>20 limit/base	6 153 current	5 132 history1	 history2
Oxidation	Sodium Potassium INFRA-RED Soot %	ppm ppm %	ASTM D5185m ASTM D5185m method *ASTM D7844	>20 limit/base >3	6 153 current 0.8	5 132 history1 0.4	 history2
	Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm % Abs/cm	ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624	>20 limit/base >3 >20	6 153 current 0.8 10.5	5 132 history1 0.4 9.0	history2
	Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415	>20 limit/base >3 >20 >30	6 153 current 0.8 10.5 23.0	5 132 history1 0.4 9.0 23.2	history2
	Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415 method	>20 limit/base >3 >20 >30 limit/base	6 153 current 0.8 10.5 23.0 current	5 132 history1 0.4 9.0 23.2 history1	history2 history2



OIL ANALYSIS REPORT







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

: PCA0105904 : 05950652 : 10646611 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 13 Sep 2023 Diagnosed : 20 Sep 2023 : Don Baldridge Diagnostician

Transervice - Shop 1361 - Berkeley-Windsor 4400 State Road 19

Windsor, WI US 53598 Contact: Mike Hurda mhurda@transervice.com T: (608)846-2726

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)

F: (608)846-0389