

PROBLEM SUMMARY

PETRO CANADA DURON SHP 15W40 (8 GAL)

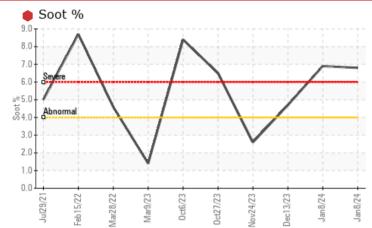
Sample Rating Trend SOOT

COMPONENT CONDITION SUMMARY

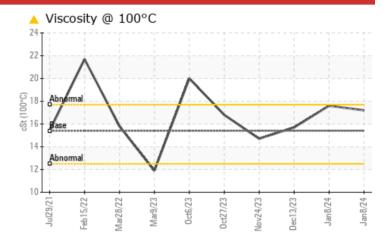
Machine Id

Component Diesel Engine

Fluid



727065-361316.1



RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

PROBLEMATIC TEST RESULTS							
Sample Status				SEVERE	SEVERE	ABNORMAL	
Soot %	%	*ASTM D7844	>4	6.8	6.9	4 .7	
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	0.0	▲ 0.0	▲ 0.0	
Visc @ 100°C	cSt	ASTM D445	15.4	17.2	▲ 17.6	15.7	

Customer Id: GFL829 Sample No.: GFL0098714 Lab Number: 06089810 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

RECOMMENDE	D ACTIONS			
Action	Status	Date	Done By	Description
Change Fluid			?	Oil and filter change at the time of sampling has been noted.
Change Filter			?	Oil and filter change at the time of sampling has been noted.
Resample			?	We recommend an early resample to monitor this condition.
Alert			?	NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.
Check Combustion			?	We advise that you check for faulty combustion, plugged air filters, or aftercoolers.

HISTORICAL DIAGNOSIS

08 Jan 2024 Diag: Jonathan Hester



We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The oil viscosity is higher than normal. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.



view report

DEGRADATION

13 Dec 2023 Diag: Don Baldridge

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The BN level is low.

24 Nov 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor.Metal levels are typical for a new component breaking in. 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

Sample Rating Trend



Machine Id 727065-361316.1 Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (8 GAL)



DIAGNO	SIS
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Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value.

Wear

All component wear rates are normal.

Contamination

There is an abnormal amount of solids and carbon present in the oil.

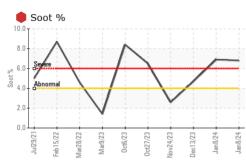
Fluid Condition

The oil viscosity is higher than normal. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

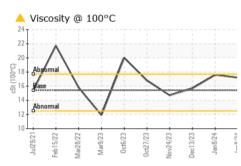
Sample Date Client Info 06 Jan 2024 08 Jan 2024 13 Dec 2023 Machine Age hrs Client Info 694 592 452 Oil Age hrs Client Info 600 150 150 Oil Age hrs Client Info Changed Not Changd Not Changd Sample Status Imit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG Water WC Method >0.2 NEG NEG NEG Chromium ppm ASTM D5185m >10 <1 <1 <1 Nickel ppm ASTM D5185m >20 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	SAMPLE INFORI		method	limit/base	current	nistory I	nistory2
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Oil Age hrs Client Info 600 150 150 Oil Changed Client Info Changed Not Changd Not Changd Sample Status Imit/Dase Current history1 history2 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Water WC Method >0.2 NEG NEG NEG Wear WC Method >0.2 NEG NEG NEG Wickel ppm ASTM D5185n >12.0 19 17 9 Chromium ppm ASTM D5185n >2.0 0 0 0 Silver ppm ASTM D5185n >2.0 0 0 0 0 Copper ppm ASTM D5185n >2.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <td< td=""><th>Sample Date</th><td></td><td>Client Info</td><td></td><th>08 Jan 2024</th><td>08 Jan 2024</td><td>13 Dec 2023</td></td<>	Sample Date		Client Info		08 Jan 2024	08 Jan 2024	13 Dec 2023
Oil Changed Sample Status Client Info Changed SEVERE Not Changed SEVERE Not Changed ABNORMAL CONTAMINATION method Imit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG Water MSTM D5185m >12.0 19 17 9 Chromium ppm ASTM D5185m >2.0 0 0 0 Nokel ppm ASTM D5185m >2.0 0 0 0 Aduminum ppm ASTM D5185m >2.0 0 0 0 0 Copper ppm ASTM D5185m 2.30 4 4 2 Manduminum ppm ASTM D5185m 0 0 0 0	Machine Age	hrs	Client Info		694	592	452
Sample Status SEVERE SEVERE SEVERE SEVERE ABNORMAL CONTAMINATION method imit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 19 17 9 Chromium ppm ASTM D5185m >50 0 1 0 Nickel ppm ASTM D5185m >20 2 1 0 Copper ppm ASTM D5185m >40 2 1 0 Cadmium ppm ASTM D5185m >40 2 1 0 Cadmium ppm ASTM D5185m >15 <1	Oil Age	hrs	Client Info		600	150	150
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Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imit/base current history1 history2 Iron ppm ASTM D5185m >120 19 17 9 Chromium ppm ASTM D5185m >5 0 <1	-		mothod	limit/baco	ourropt	history1	history?
Citycol WC Method NEG NEG NEG WEAR METALS method limil/base current history1 history2 Iron ppm ASTM D5185m >120 19 17 9 Chromium ppm ASTM D5185m >20 1 <1 <1 Nickel ppm ASTM D5185m >2 0 <1 0 Silver ppm ASTM D5185m >2 0 <1 0 Aduminum ppm ASTM D5185m >2 0 <1 0 Copper ppm ASTM D5185m >40 2 <1 0 Cadmium ppm ASTM D5185m >15 <1 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 <1 <1 <1 <1 Barium ppm ASTM D5185m 00 <1 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
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Iron ppm ASTM D5185m >120 19 17 9 Chromium ppm ASTM D5185m >20 1 <1	Glycol		WC Method		NEG	NEG	NEG
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Titanium ppm ASTM D5185m >2 0 <1 0 Silver ppm ASTM D5185m >20 2 2 <1	Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >20 2 2 <1 Lead ppm ASTM D5185m >330 4 4 2 Copper ppm ASTM D5185m >330 4 4 2 Vanadium ppm ASTM D5185m >15 <1 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 <1 0 1 <th1< td=""><th>Nickel</th><td>ppm</td><td>ASTM D5185m</td><td>>5</td><th>0</th><td><1</td><td>0</td></th1<>	Nickel	ppm	ASTM D5185m	>5	0	<1	0
Aluminum ppm ASTM D5185m >20 2 2 <1 Lead ppm ASTM D5185m >40 2 1 0 Copper ppm ASTM D5185m >330 4 4 2 Tin ppm ASTM D5185m >15 <1	Titanium	ppm	ASTM D5185m	>2	0	<1	0
Lead ppm ASTM D5185m >40 2 1 0 Copper ppm ASTM D5185m >330 4 4 2 Tin ppm ASTM D5185m >15 <1	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >330 4 4 2 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	2	2	<1
Tin ppm ASTM D5185m >15 <1 <1 <1 <1 Vanadium ppm ASTM D5185m >15 <1	Lead	ppm	ASTM D5185m	>40	2	1	0
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 0 1 Barium ppm ASTM D5185m 0 0 0 0 0 0 Barium ppm ASTM D5185m 0 <1 0 0 0 0 0 Magnesium ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 979 855 903 Calcium ppm ASTM D5185m 1070 992 933 968 Phosphorus ppm ASTM D5185m 1070 2959 2799 2779 CONTAMINANTS method limit/base current history1 history2 Soli	Copper	ppm	ASTM D5185m	>330	4	4	2
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ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 <1 0 1 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 55 52 53 Manganese ppm ASTM D5185m 0 <1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 60 55 52 53 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 979 855 903 Calcium ppm ASTM D5185m 1070 992 933 968 Phosphorus ppm ASTM D5185m 1070 992 933 968 Phosphorus ppm ASTM D5185m 1070 983 930 920 Zinc ppm ASTM D5185m 1270 1226 1093 1196 Sulfur ppm ASTM D5185m 2060 2959 2799 2779 CONTAMINANTS method limit/base current history1 history2 Solium ppm ASTM D5185m >20 2 2 0 Fuel % ASTM D518	ADDITIVES		method	limit/base	current	history1	history2
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Maganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 979 855 903 Calcium ppm ASTM D5185m 1070 992 933 968 Phosphorus ppm ASTM D5185m 1070 992 933 968 Phosphorus ppm ASTM D5185m 1070 992 933 968 Zinc ppm ASTM D5185m 1270 1226 1093 1196 Sulfur ppm ASTM D5185m 2060 2959 2799 2779 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 0 0 Potassium ppm ASTM D5185m >20 2 0 <1.0	Barium	ppm	ASTM D5185m	0	0	0	0
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Calcium ppm ASTM D5185m 1070 992 933 968 Phosphorus ppm ASTM D5185m 1150 983 930 920 Zinc ppm ASTM D5185m 1270 1226 1093 1196 Sulfur ppm ASTM D5185m 2060 2959 2799 2779 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m >20 2 0 0 Potassium ppm ASTM D5185m >20 2 0 <1.0	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
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Fuel % ASTM D3524 >3.0 <1.0 <1.0 <1.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 6.8 6.9 4.7 Nitration Abs/cm *ASTM D7624 >20 14.3 13.0 9.2 Sulfation Abs/.1mm *ASTM D7415 >30 33.2 32.0 26.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.5 19.5 13.4	Potassium		ASTM D5185m	>20	2	2	0
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Soot % % *ASTM D7844 >4 6.8 6.9 4.7 Nitration Abs/cm *ASTM D7624 >20 14.3 13.0 9.2 Sulfation Abs/.1mm *ASTM D7415 >30 33.2 32.0 26.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.5 19.5 13.4	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 14.3 13.0 9.2 Sulfation Abs/.1mm *ASTM D7624 >30 33.2 32.0 26.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.5 19.5 13.4		%					
Sulfation Abs/.1mm *ASTM D7415 >30 33.2 32.0 26.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.5 19.5 13.4							
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.5 19.5 13.4							
Oxidation Abs/.1mm *ASTM D7414 >25 20.5 19.5 13.4							
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<u> </u>	0.0	0.0

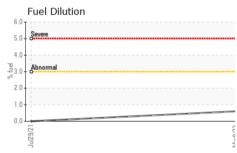


OIL ANALYSIS REPORT

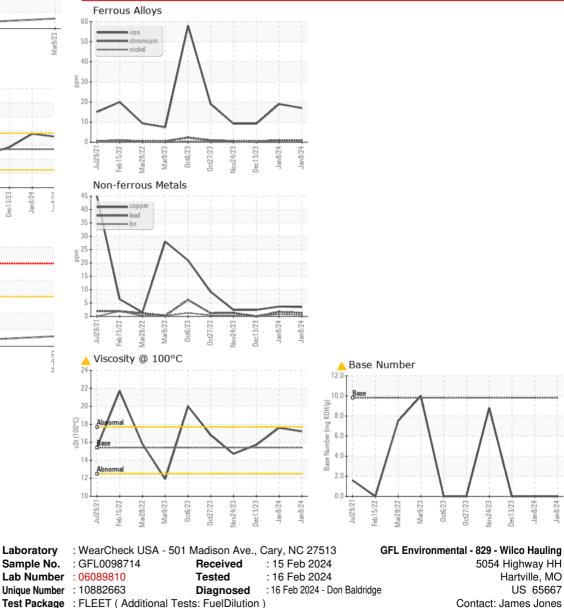








VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	1 7.2	1 7.6	15.7
GRAPHS						





 Certificate L2367
 Test Package
 FLEET (Additional Tests: FuelDilution)

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

 * - 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)

Submitted By: Jerry Hazel

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