

PROBLEM SUMMARY

Sample Rating Trend

DEGRADATION

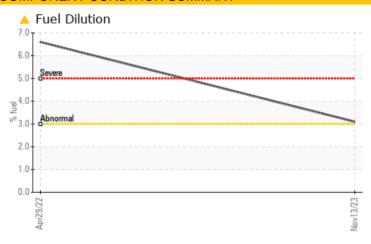




Machine Id
346M
Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 15W40 (36 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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. 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.

PROBLEMATIC TEST RESULTS								
Sample Status				ABNORMAL	ABNORMAL			
Fuel	%	ASTM D3524	>3.0	△ 3.1	△ 6.6			
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	0.2	5.8			

Customer Id: GFL410 Sample No.: GFL0059244 Lab Number: 06010567 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Doug Bogart +1 (800)237-1369 x4016 dougb@wearcheckusa.com

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

RECOMMENDED ACTIONS					
Action	Status	Date	Done By	Description	
Change Fluid			?	We recommend that you drain the oil and perform a filter service on this component if not already done.	
Change Filter			?	We recommend that you drain the oil and perform a filter service on this component if not already done.	
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

29 Apr 2022 Diag: Don Baldridge





We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a high amount of fuel present in the oil. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.





OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION



Machine Id
346M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (36 GAL)



DIAGNOSIS

Recommendation

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. 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.

Wear

Metal levels are typical for a new component breaking in.

Contamination

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

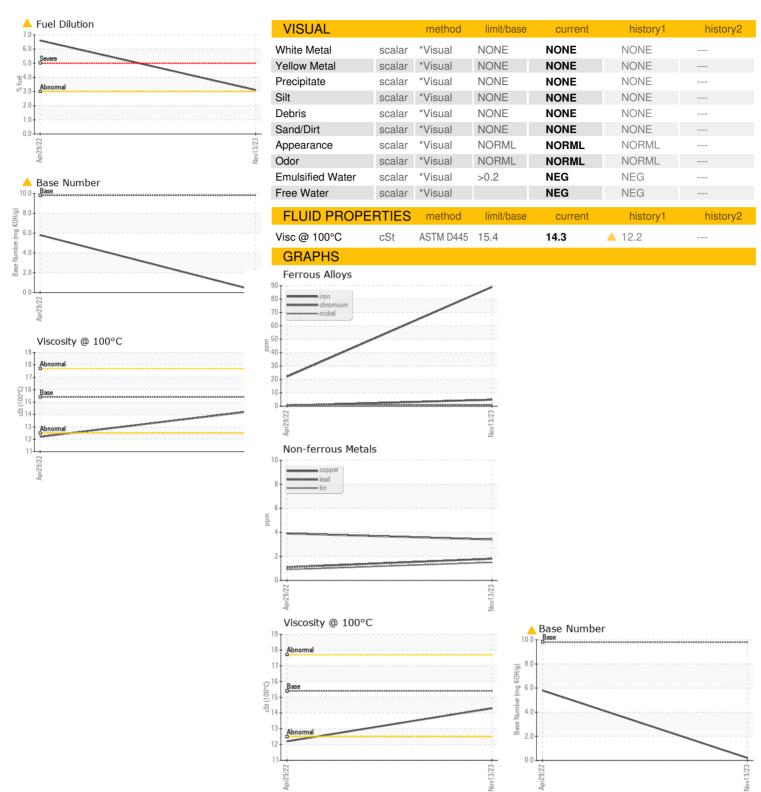
Fluid Condition

The BN level is low.

SAMPLE INFORMATION method limit/base current history1 history2 Sample Date Client Info GFL0059244 GFL0049296	N 3HP 13W40 (3	o aal)		Apr2022	Nov2023		
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Date Client Info 13 Nov 2023 29 Apr 2022 Machine Age hrs Client Info 22721 22938 Oil Oil Age hrs Client Info 22721 600 Oil Changed Client Info Not Changed Sample Status Not Changed ABNORMAL ABNORMAL Water WC Method >0.2 NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >12 NEG NEG Iron ppm ASTM 05185m >20 5 <1	Sample Number		Client Info		GFL0059244	GFL0049296	
Oil Age hrs Client Info 22721 600 Oil Changed Sample Status Client Info Not Changed Cha	Sample Date		Client Info		13 Nov 2023	29 Apr 2022	
Colient Info Not Changed Changed Changed Changed ABNORMAL ABNORMAL CONTAMINATION Method Iimil/base current history1 history2	Machine Age	hrs	Client Info		22721	22938	
ABNORMAL	Oil Age	hrs	Client Info		22721	600	
ABNORMAL	-		Client Info		Not Changd	Changed	
Water Glycol WC Method WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 89 22 Chromium ppm ASTM D5185m >20 5 <1	-				_	ABNORMAL	
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 89 22 Chromium ppm ASTM D5185m >20 5 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	
Iron	Glycol		WC Method		NEG	NEG	
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>120	89	22	
Titanium	Chromium	ppm	ASTM D5185m	>20	5	<1	
Silver	Nickel	ppm	ASTM D5185m	>5	<1	1	
Aluminum	Titanium	ppm	ASTM D5185m	>2	<1	0	
Lead ppm ASTM D5185m >40 2 1 Copper ppm ASTM D5185m >330 3 4 Tin ppm ASTM D5185m >15 2 <1	Silver	ppm	ASTM D5185m	>2	<1	0	
Copper ppm ASTM D5185m >330 3 4 Tin ppm ASTM D5185m >15 2 <1	Aluminum	ppm	ASTM D5185m	>20	9	7	
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Sodium ppm ASTM D5185m 11 6 Potassium ppm ASTM D5185m >20 <1	Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270	1 979 1120 1083 1338	<1 846 1025 912 1081	
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Soot % % *ASTM D7844 >4 1.5 0.9 Nitration Abs/cm *ASTM D7624 >20 13.4 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 24.8 25.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 25.0 21.6	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25	1 979 1120 1083 1338 2684 current 15	<1 846 1025 912 1081 2139 history1 4	 history2
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Sulfation Abs/.1mm *ASTM D7415 >30 24.8 25.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 25.0 21.6	Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0	1 979 1120 1083 1338 2684 current 15 11 <1	<1 846 1025 912 1081 2139 history1 4 6 9	history2
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm 'ASTM D7414 >25 25.0 21.6	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524	0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0	1 979 1120 1083 1338 2684 current 15 11 <1	<1 846 1025 912 1081 2139 history1 4 6 9 ▲ 6.6 history1	history2 history2
Oxidation Abs/.1mm *ASTM D7414 >25 25.0 21.6	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 method *ASTM D7844	0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base	1 979 1120 1083 1338 2684 current 15 11 <1 ▲ 3.1 current 1.5	<1 846 1025 912 1081 2139 history1 4 6 9 ▲ 6.6 history1 0.9	history2 history2
	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20	1 979 1120 1083 1338 2684 current 15 11 <1	<1 846 1025 912 1081 2139 history1 4 6 9 ▲ 6.6 history1 0.9 11.9	history2 history2
	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20 >30	1 979 1120 1083 1338 2684	<1 846 1025 912 1081 2139 history1 4 6 9 ▲ 6.6 history1 0.9 11.9 25.3	history2 history2
, , , , , , , , , , , , , , , , , , ,	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m Method ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20 >30 limit/base	1 979 1120 1083 1338 2684	<1 846 1025 912 1081 2139 history1 4 6 9 ▲ 6.6 history1 0.9 11.9 25.3 history1	history2 history2



OIL ANALYSIS REPORT







Certificate L2367

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

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

: 06010567 : 10749711

: GFL0059244 Received Diagnosed Diagnostician : Doug Bogart

Test Package : FLEET (Additional Tests: PercentFuel) To discuss this sample report, contact Customer Service at 1-800-237-1369.

: 17 Nov 2023

: 05 Dec 2023

* - 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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