

PROBLEM SUMMARY

Sample Rating Trend

DEGRADATION

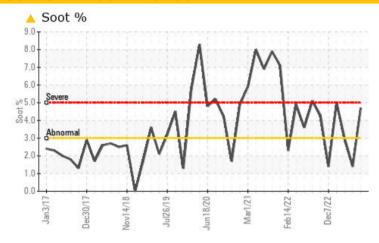
Machine Id 2443 Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (48 QTS)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The oil change at the time of sampling has been noted. 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.

PROBLEMATIC TEST RESULTS								
Sample Status				ABNORMAL	NORMAL	ABNORMAL		
Soot %	%	*ASTM D7844	>3	4.7	1.4	△ 3		
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	△ 0.0	9.6	7.9		

Customer Id: GFL001 Sample No.: GFL0089275 Lab Number: 05941883 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
Change Filter			?	We recommend you service the filters on this component.
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

31 May 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. 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.



11 May 2023 Diag: Jonathan Hester

SOOT



Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is an abnormal amount of solids and carbon present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.



16 Mar 2023 Diag: Jonathan Hester

DEGRADATION



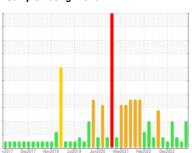
We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total 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.





OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Machine Id 2443 Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (48 QTS)

DIAGNOSIS

Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The oil change at the time of sampling has been noted. 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.

Wear

All component wear rates are normal.

Contamination

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

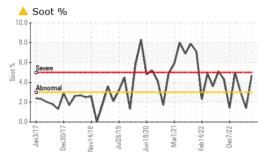
Fluid Condition

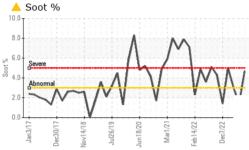
The BN level is low.

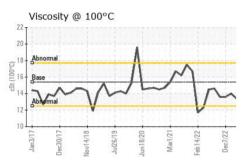
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number	<i>vii</i> , (1101)	Client Info		GFL0089275	GFL0056759	GFL0056772
Sample Date		Client Info		01 Sep 2023	31 May 2023	11 May 2023
Machine Age	hrs	Client Info		43103	42349	42335
Oil Age	hrs	Client Info		0	466	472
Oil Changed	1110	Client Info		Changed	Changed	Changed
Sample Status		Olichi iilio		ABNORMAL	NORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel	1014		>5	<1.0	<1.0	<1.0
Glycol		WC Method	/5	NEG	NEG	NEG
,				NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	79	12	41
Chromium	ppm	ASTM D5185m		3	<1	1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	0	1
Lead	ppm	ASTM D5185m	>40	<1	<1	2
Copper	ppm	ASTM D5185m	>330	13	15	26
Tin	ppm	ASTM D5185m	>15	2	<1	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	1	<1	5
Barium	ppm	ASTM D5185m	0	0	0	2
Molybdenum	ppm	ASTM D5185m	60	59	57	62
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	959	837	840
Calcium	ppm	ASTM D5185m	1070	1061	1023	1056
Phosphorus	ppm	ASTM D5185m	1150	1026	969	952
Zinc	ppm	ASTM D5185m	1270	1285	1133	1136
Sulfur	ppm	ASTM D5185m	2060	3589	2905	2826
CONTAMINAN	TS	method	limit/base	current	history1	history2
					,	,
Silicon	ppm	ASTM D5185m	>25	6	3	4
Silicon Sodium	ppm ppm	ASTM D5185m ASTM D5185m	>25			
				6	3	4
Sodium	ppm	ASTM D5185m		6 3	3	4
Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	>20	6 3 <1	3 0 2	4 4 2
Sodium Potassium INFRA-RED	ppm ppm	ASTM D5185m ASTM D5185m method	>20 limit/base >3	6 3 <1 current	3 0 2 history1	4 4 2 history2
Sodium Potassium INFRA-RED Soot %	ppm ppm	ASTM D5185m ASTM D5185m method *ASTM D7844	>20 limit/base >3	6 3 <1 current 4.7	3 0 2 history1 1.4	4 4 2 history2
Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624	>20 limit/base >3 >20	6 3 <1 current ▲ 4.7 10.8	3 0 2 history1 1.4 6.4	4 4 2 history2 3 9.2
Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415	>20 limit/base >3 >20 >30	6 3 <1 current ▲ 4.7 10.8 26.9 current	3 0 2 history1 1.4 6.4 19.7 history1	4 4 2 history2 ▲ 3 9.2 25.1 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 method	>20 limit/base >3 >20 >3 >20 >30 limit/base >25	6 3 <1 current 4.7 10.8 26.9	3 0 2 history1 1.4 6.4 19.7	4 4 2 history2 ▲ 3 9.2 25.1



OIL ANALYSIS REPORT



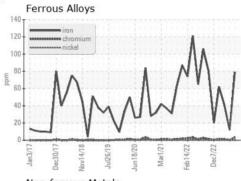


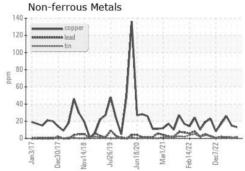


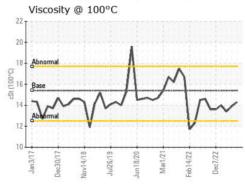
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

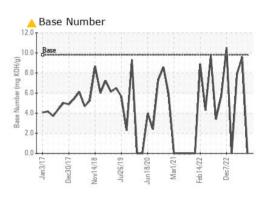
FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	13.9	13.4

GRAPHS













Certificate L2367

Laboratory Sample No.

Lab Number **Unique Number**

: GFL0089275 : 05941883

: 10632495 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 05 Sep 2023 : 06 Sep 2023 Diagnosed

Diagnostician : Don Baldridge

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)

GFL Environmental - 001 - Raleigh(CNG)

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Report Id: GFL001 [WUSCAR] 05941883 (Generated: 09/06/2023 15:54:16) Rev: 1

Submitted By: Craig Johnson