

Area (YA119644) 10446 Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (8 GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: It`s a new unit to us mileage is 275874)

PROBLEMATIC TEST RESULTS								
Sample Status				SEVERE	SEVERE	SEVERE		
Sodium	ppm	ASTM D5185m		<u> </u>	55	9390		
Potassium	ppm	ASTM D5185m	>20	🔺 525	466	A 3798		
Glycol	%	*ASTM D2982		A 0.10	▲ 0.10	▲ 0.20		

Customer Id: GFL031 Sample No.: GFL0124431 Lab Number: 06217865 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 jhester@wearcheckusa.com

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

RECOMMENDED ACTIONS							
Action Change Fluid	Status	Date	Done By ?	Description 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.			
Check Glycol Access			?	We advise that you check for the source of the coolant leak.			

HISTORICAL DIAGNOSIS

01 May 2024 Diag: Wes Davis

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition.All component wear rates are normal. Test for glycol is positive. There is a high concentration of glycol present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.





GLYCOL

GLYCOL

07 Nov 2023 Diag: Doug Bogart

We advise that you check for the source of the coolant leak. Check for low coolant level. 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. Sodium and/or potassium levels are high. Test for glycol is positive. The BN result indicates that there is suitable alkalinity remaining in the oil.





GLYCOL

04 Oct 2023 Diag: Doug Bogart

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. 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. Sodium and/or potassium levels are high. Test for glycol is positive. The BN result indicates that there is suitable alkalinity remaining in the oil.





OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL

(YA119644) 10446 Component Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: It's a new unit to us mileage is 275874)

Wear

Area

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is positive.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0124431	GFL0110388	GFL0089972
Sample Date		Client Info		18 Jun 2024	01 May 2024	07 Nov 2023
Machine Age	hrs	Client Info		16759	22501	59145
Oil Age	hrs	Client Info		59145	59145	59145
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				SEVERE	SEVERE	SEVERE
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
	S	method	limit/base	current	history1	history2
	0		100	ouncill		
Iron	ppm	ASTM D5185m	>100	8	8	32
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Litanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	1	5
Lead	ppm	ASTM D5185m	>40	<1	2	1
Copper	ppm	ASTM D5185m	>330	14	11	92
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
		and a state of the	limit/booo		In the second second	history 0
ADDITIVES		method	iimii/base	current	nistory i	nistory2
Boron	ppm	ASTM D5185m	0	5	nistory i 3	nistory2 2
ADDITIVES Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	0 0	5 1	3 0	2 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	5 1 61	3 0 63	2 0 66
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	5 1 61 <1	All All <th>2 0 66 <1</th>	2 0 66 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	5 1 61 <1 888	Nistory I 3 0 63 <1 958	2 0 66 <1 904
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	5 1 61 <1 888 1092	All All <th>2 0 66 <1 904 988</th>	2 0 66 <1 904 988
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	5 1 61 <1 888 1092 1024	3 0 63 <1	2 0 66 <1 904 988 941
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	5 1 61 <1 888 1092 1024 1206	3 0 63 <1	1 2 0 66 <1 904 988 941 1213
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	5 1 61 <1 888 1092 1024 1206 3104	1 3 0 63 <1 958 1119 1097 1289 3781	Pristory2 2 0 66 <1 904 988 941 1213 2844
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	5 1 61 <1 888 1092 1024 1206 3104	Nistory1 3 0 63 <1 958 1119 1097 1289 3781 history1	1 2 0 66 <1 904 988 941 1213 2844 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >25	5 1 61 <1 888 1092 1024 1206 3104 current 6	3 0 63 <1 958 1119 1097 1289 3781 history1 6	1 2 0 66 <1 904 988 941 1213 2844 history2 17
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	5 1 61 <1 888 1092 1024 1206 3104 current 6 ▲ 61	3 0 63 <1 958 1119 1097 1289 3781 history1 6 55	1 2 0 66 <1 904 988 941 1213 2844 history2 17 390
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	5 1 61 <1 888 1092 1024 1206 3104 current 6 ▲ 61 ▲ 525	Nistory1 3 0 63 <1 958 1119 1097 1289 3781 history1 6 55 ▲ 466	1 2 0 66 <1 904 988 941 1213 2844 history2 17 390 3798
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D2982	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	current 5 1 61 <1 888 1092 1024 1206 3104 current 6 ▲ 61 ▲ 525 ▲ 0.10	Nistory1 3 0 63 <1 958 1119 1097 1289 3781 history1 6 55 466 0.10	1 2 0 66 <1 904 988 941 1213 2844 history2 17 390 3798 0.20
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm %	ASTM D5185m ASTM D2982 method	0 0 60 0 1010 1070 1150 1270 2060 Imit/base >25 >20	5 1 61 <1 888 1092 1024 1206 3104 current 6 ▲ 61 ▲ 525 ▲ 0.10	Nistory1 3 0 63 <1 958 1119 1097 1289 3781 history1 6 55 ▲ 466 ▲ 0.10 history1	1 2 0 66 <1 904 988 941 1213 2844 history2 17 390 3798 0.20 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm 1 ppm 2 ppm 2 ppm 3 ppm 4 ppm 4	method ASTM D5185m ASTM D2982 method *ASTM D2982	0 0 60 0 1010 1070 1150 1270 2060 limit/base >20 Imit/base >20 3	current 5 1 61 <1 888 1092 1024 1206 3104 current 6 ▲ 61 ▲ 525 ▲ 0.10 current 0.1	Nistory1 3 0 63 <1 958 1119 1097 1289 3781 history1 6 55 466 0.10 history1 0.1	1 2 0 66 <1 904 988 941 1213 2844 history2 17 390 3798 0.20 history2 0.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D2982 method *ASTM D2982 Method *ASTM D7844	0 0 60 0 1010 1070 1150 1270 2060 limit/base >20 limit/base >3 >20	current 5 1 61 <1 888 1092 1024 1206 3104 Current 6 ▲ 61 ▲ 525 ▲ 0.10 Current 0.1 5.7	Nistory1 3 0 63 <1 958 1119 1097 1289 3781 history1 6 55 466 0.10 history1 0.1 5.5	1 2 0 66 <1 904 988 941 1213 2844 history2 17 390 3798 0.20 history2 0.3 12.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m *ASTM D2982 method *ASTM D7844 *ASTM D7624	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30	current 5 1 61 <1 888 1092 1024 1206 3104 current 6 ▲ 61 ▲ 525 ▲ 0.10 current 0.1 5.7 17.6	Nistory1 3 0 63 <1 958 1119 1097 1289 3781 history1 6 55 466 0.10 history1 0.1 5.5 17.8	1 2 0 66 <1 904 988 941 1213 2844 history2 17 390 3798 ▲ 0.20 history2 0.3 12.6 25.7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m *ASTM D7844 *ASTM D7415 method	Imit/base 0 0 60 0 1010 1070 1150 1270 2060 Imit/base >25 - 20 Imit/base >20 Sa >20 Imit/base >3 >20 >30 Imit/base	Current 5 1 61 <1 888 1092 1024 1206 3104 Current 6 ▲ 61 ▲ 525 ▲ 0.10 Current 0.1 5.7 17.6	Nistory1 3 0 63 <1 958 1119 1097 1289 3781 history1 6 55 466 0.10 history1 0.1 5.5 17.8	1 2 0 66 <1 904 988 941 1213 2844 history2 17 390 3798 0.20 history2 0.3 12.6 25.7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7415 method	0 0 60 0 1010 1070 1150 1270 2060 limit/base >20 limit/base >3 >20 >30 limit/base	current 5 1 61 <1 888 1092 1024 1206 3104 current 6 ▲ 61 ▲ 525 ▲ 0.10 current 0.1 5.7 17.6 current 13.4	Nistory1 3 0 63 <1 958 1119 1097 1289 3781 history1 6 55 466 0.10 history1 0.1 5.5 17.8 history1 13.2	Nistory2 2 0 66 <1 904 988 941 1213 2844 history2 17 390 3798 ▲ 0.20 history2 0.3 12.6 25.7 history2 16.4



OIL ANALYSIS REPORT









VICONE		mounou	1111100000	ounonit	motory	motory
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
		and the state	Dans It /lease a		Internet and	la la tarra O
FLUID PROPE	RHES	method	limit/base	current	history i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	14.0	14.4
GRAPHS						

Ferrous Alloys







Base Number

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 031 - Greenville/Spartanburg Sample No. : GFL0124431 Received : 24 Jun 2024 1635 Antioch Church Rd Lab Number : 06217865 Tested : 25 Jun 2024 Piedmont, SC Unique Number : 11096062 Diagnosed : 25 Jun 2024 - Jonathan Hester US 29673 Test Package : FLEET Contact: TECHNICIAN ACCOUNT Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. catherine.anastasio@wearcheck.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

eb25/19

Aug19/22 0ct4/23

an31/21

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Feb17/16

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Aug14/14

Apr22/15

Report Id: GFL031 [WUSCAR] 06217865 (Generated: 06/25/2024 16:59:22) Rev: 1

Submitted By: Matt Segars