

Machine Id 822019-114

Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (--- LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS							
Sample Status				ABNORMAL	NORMAL	ABNORMAL	
Sodium	ppm	ASTM D5185m		<u> </u>	4	4	
Potassium	ppm	ASTM D5185m	>20	A 281	1	<1	
Glycol	%	*ASTM D2982		0.06	NEG	NEG	

Customer Id: GFL652 Sample No.: GFL0083856 Lab Number: 05887265 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 <u>customerservice@wearcheck.com</u>



RECOMMENDED ACTIONS						
Action	Status	Date	Done By	Description		
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



11 Aug 2022 Diag: Wes Davis

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.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.



view report

13 Jul 2022 Diag: Don Baldridge



Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Elemental level of silicon (Si) above normal. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

31 Jul 2021 Diag: Wes Davis





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.







OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL

Machine Id 822019-114

Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (--- LTR)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Wear

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.

-		may2020	Jetzuzu Janzuzi	Apr2021 Jul2021 Jul2022	SUNZOZ3	
SAMPLE INFORI	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		GFL0083856	GFL0047925	GFL0047840
Sample Date		Client Info		27 Jun 2023	11 Aug 2022	13 Jul 2022
Machine Age	hrs	Client Info		177135	177135	177135
Oil Age	hrs	Client Info		177135	600	600
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>110	61	17	31
Chromium	ppm	ASTM D5185m	>4	5	1	2
Nickel	ppm	ASTM D5185m	>2	2	<1	2
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	<1	<1	1
Aluminum	ppm	ASTM D5185m	>25	2	3	3
Lead	ppm	ASTM D5185m	>45	3	<1	2
Copper	ppm	ASTM D5185m	>85	5	2	4
Tin	ppm	ASTM D5185m	>4	1	<1	2
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history 1	history 2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 7	history 1 20	history 2 10
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0	current 7 0	history 1 20 0	history 2 10 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60	current 7 0 98	history 1 20 0 62	history 2 10 0 60
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0	current 7 0 98 1	history 1 20 0 62 <1	history 2 10 0 60 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010	current 7 0 98 1 874	history 1 20 0 62 <1 859	history 2 10 0 60 <1 918
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070	current 7 0 98 1 874 1216	history 1 20 0 62 <1 859 1098	history 2 10 0 60 <1 918 1181
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150	current 7 0 98 1 874 1216 1005	history 1 20 0 62 <1 859 1098 1007	history 2 10 0 60 <1 918 1181 966
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270	current 7 0 98 1 874 1216 1005 1281	history 1 20 0 62 <1 859 1098 1007 1236	history 2 10 0 60 <1 918 1181 966 1213
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 1010 1070 1150 1270 2060	current 7 0 98 1 874 1216 1005 1281 2982	history 1 20 0 62 <1 859 1098 1007 1236 2938	history 2 10 0 60 <1 918 1181 966 1213 3436
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270 2060	current 7 0 98 1 874 1216 1005 1281 2982 current	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1	history 2 10 0 60 <1 918 1181 966 1213 3436 history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >30	current 7 0 98 1 874 1216 1005 1281 2982 current 12	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13	history 2 10 0 60 <1 918 1181 966 1213 3436 history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >30	current 7 0 98 1 874 1216 1005 1281 2982 current 12 45	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4	history 2 10 0 60 <1 918 1181 966 1213 3436 history 2 ▲ 31 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	limit/base 0 0 60 1010 1070 1150 1270 2060 limit/base >30 >20	current 7 0 98 1 874 1216 1005 1281 2982 current 12 45 281	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4 1	history 2 10 0 60 <1 918 1181 966 1213 3436 bistory 2 ∧ 31 4 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270 2060 limit/base >30	current 7 0 98 1 874 1216 1005 1281 2982 current 12 45 281 0.06	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4 1 NEG	history 2 10 0 60 <1 918 1181 966 1213 3436 bistory 2 ▲ 31 4 <1 NEG
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 ppm TS ppm ppm	method ASTM D5185m ASTM D2982	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >20 limit/base	current 7 0 98 1 874 1216 1005 1281 2982 current 12 45 281 0.06 current	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4 1 NEG history 1	history 2 10 0 60 <1 918 1181 966 1213 3436 bistory 2 ▲ 31 4 <1 NEG history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D2982 method *ASTM D2984	limit/base 0 60 1010 1070 1150 1270 2060 limit/base >30 limit/base >3	current 7 0 98 1 874 1216 1005 1281 2982 current 12 45 281 0.06 current 1.5	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4 1 NEG history 1 0.4	history 2 10 0 60 <1 918 1181 966 1213 3436 history 2 ▲ 31 4 <1 NEG history 2 0.7
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 D5185m *ASTM D5185m	limit/base 0 60 1010 1070 1150 1270 2060 limit/base >30 limit/base >3 >20	current 7 0 98 1 874 1216 1005 1281 2982 current 12 45 281 0.06 current 1.5 11.7	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4 1 NEG history 1 0.4 8.0	history 2 10 0 60 <1 918 1181 966 1213 3436 bistory 2 ▲ 31 4 <1 NEG bistory 2 0.7 9.1
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	limit/base 0 0 1010 1070 1150 1270 2060 limit/base >30 limit/base >3 >20 >30	current 7 0 98 1 874 1216 1005 1281 2982 current 12 45 281 0.06 current 1.5 11.7 24.4	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4 1 NEG history 1 0.4 8.0 20.3	history 2 10 0 60 <1 918 1181 966 1213 3436 history 2 ▲ 31 4 <1 NEG history 2 0.7 9.1 21.4
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 D5185m *ASTM D7844 *ASTM D7415 method	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >30 limit/base >3 >20 limit/base	current 7 0 98 1 874 1216 1005 1281 2982 current 12 ▲ 45 281 ▲ 0.06 current 1.5 11.7 24.4	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4 1 NEG history 1 0.4 8.0 20.3 history 1	history 2 10 0 60 <1 918 1181 966 1213 3436 bistory 2 ▲ 31 4 <1 NEG bistory 2 0.7 9.1 21.4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7415 method *ASTM D7414	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >30 limit/base >3 >20 s30 limit/base >3 >20 s30	current 7 0 98 1 874 1216 1005 1281 2982 current 12 ▲ 45 281 ▲ 0.06 current 1.5 11.7 24.4 current	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4 1 NEG history 1 0.4 8.0 20.3 history 1	history 2 10 0 60 <1 918 1181 966 1213 3436 history 2 ▲ 31 4 <1 NEG history 2 0.7 9.1 21.4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation Base Number (BN)	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m *ASTM D7844 *ASTM D7414 *ASTM D74144 ASTM D7848	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >30 limit/base >3 >20 >30 limit/base >3 >20 >30	current 7 0 98 1 874 1216 1005 1281 2982 current 12 45 281 0.06 current 1.5 11.7 24.4 current 18.7 6.9	history 1 20 0 62 <1 859 1098 1007 1236 2938 history 1 13 4 1 NEG history 1 0.4 8.0 20.3 history 1 15.1 9.5	history 2 10 0 60 <11 918 1181 966 1213 3436 history 2 ▲ 31 4 <1 NEG history 2 0.7 9.1 21.4 history 2 16.0 8.5



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history 1	history 2
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
	DTIEC	mothod	limit/bass	ourropt	history 1	history 0
	n I IEO	method	IIIIII/Dase	current	TIISTOLA I	TIISLOTY 2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.9	13.3
GRAPHS						









: 29 Jun 2023

: 03 Jul 2023



US 22408 Contact: WILLIAM MILO wmilo@gflenv.com Т: F:



Test Package : FLEET (Additional Tests: Glycol) Certificate L2367 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)

Received

Diagnosed

Diagnostician

: GFL0083856

: 05887265

: 10537748

Report Id: GFL652 [WUSCAR] 05887265 (Generated: 07/03/2023 15:45:49) Rev: 1

Laboratory

Sample No.

Lab Number

Unique Number