

Sample Rating Trend



Machine Id 11178 Component **Diesel Engine** Fluid PETRO CANADA DURON SHP 15W40 (42 GAL)

COMPONENT CONDITION SUMMARY







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	NORMAL	NORMAL		
Iron	ppm	ASTM D5185m	>80	<u> </u>	41	62		
Soot %	%	*ASTM D7844	>3	8 .4	1.1	0.4		
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<u> </u>	8.0	6.8		
Visc @ 100°C	cSt	ASTM D445	15.4	17.6	13.8	12.8		

Customer Id: GFL005 Sample No.: GFL0086426 Lab Number: 05891047 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 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



NORMAL

09 May 2023 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.



view report

12 Jan 2023 Diag: Jonathan Hester

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.

14 Sep 2022 Diag: Doug Bogart

NORMAL



Resample at the next service interval to monitor.All component wear rates are normal. Fuel content negligible. No other contaminants were detected 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.







OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 11178

Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (42 GAL)

DIAGNOSIS

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

Cylinder, crank, or cam shaft wear is indicated.

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.

SAMPLE INFORI	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		GFL0086426	GFL0070487	GFL0058560
Sample Date		Client Info		04 Jul 2023	09 May 2023	12 Jan 2023
Machine Age	hrs	Client Info		0	226401	16409
Oil Age	hrs	Client Info		653	226401	593
Oil Changed		Client Info		Changed	N/A	Changed
Sample Status				SEVERE	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	maa	ASTM D5185m	>80	A 82	41	62
Chromium	ppm	ASTM D5185m	>5	2	<1	1
Nickel	maa	ASTM D5185m	>2	- <1	1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	maa	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	<1	2	3
Lead	ppm	ASTM D5185m	>30	3	10	10
Copper	ppm	ASTM D5185m	>150	14	3	4
Tin	ppm	ASTM D5185m	>5	2	1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history 1	history 2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 2	history 1 5	history 2 11
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0	current 2 <1	history 1 5 2	history 2 11 1
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60	current 2 <1 60	history 1 5 2 72	history 2 11 1 77
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 2 <1 60 <1	history 1 5 2 72 <1	history 2 11 1 77 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010	current 2 <1 60 <1 927	history 1 5 2 72 <1 990	history 2 11 1 77 <1 955
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 2 <1 60 <1 927 1112	history 1 5 2 72 <1 990 1216	history 2 11 1 77 <1 955 1217
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 0 60 0 1010 1070 1150	current 2 <1 60 <1 927 1112 917	history 1 5 2 72 <1 990 1216 1065	history 2 11 1 77 <1 955 1217 1015
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 0 1010 1070 1150 1270	current 2 <1 60 <1 927 1112 917 1186	history 1 5 2 72 <1 990 1216 1065 1283	history 2 11 1 77 <1 955 1217 1015 1260
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 0 1010 1070 1150 1270 2060	current 2 <1 60 <1 927 1112 917 1186 2935	history 1 5 2 72 <1 990 1216 1065 1283 3035	history 2 11 1 77 <1 955 1217 1015 1260 2893
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	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 2 <1 60 <1 927 1112 917 1186 2935 current	history 1 5 2 72 <1 990 1216 1065 1283 3035 history 1	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1150 1270 2060 limit/base >20	current 2 <1 60 <1 927 1112 917 1186 2935 current 4	history 1 5 2 72 <1 990 1216 1065 1283 3035 history 1	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	limit/base 0 0 0 1010 1010 1070 1150 1270 2060 limit/base >20	current 2 <1 60 <1 927 1112 917 1186 2935 current 4 2	history 1 5 2 72 <1 990 1216 1065 1283 3035 history 1 4 14	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2 4 31
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >20 >20	current 2 <1 60 <1 927 1112 917 1186 2935 current 4 2 3	history 1 5 2 72 <1 990 1216 1065 1283 3035 history 1 4 14 4	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2 4 31 8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	limit/base 0 0 0 1010 1010 1070 1150 1270 2060 limit/base >20 limit/base	current 2 <1 60 <1 927 1112 917 1186 2935 current 4 2 3 current	history 1 5 2 72 <1 990 1216 1065 1283 3035 history 1 4 14 4 history 1	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2 4 31 8 history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	limit/base 0 0 1010 1010 1070 1150 1270 2060 limit/base >20 limit/base	current 2 <1 60 <1 927 1112 917 1186 2935 current 4 2 3 current 8.4	history 1 5 2 72 <1 990 1216 1065 1283 3035 history 1 4 14 4 history 1 1.1	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2 4 31 8 history 2 0.4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 1010 1010 1070 1150 1270 2060 limit/base >20 limit/base >20 limit/base	current 2 <1 60 <1 927 1112 917 1186 2935 current 4 2 3 current 8.4 50.4	history 1 5 2 72 <1 990 1216 1065 1283 3035 history 1 4 14 4 history 1 1.1 10.7	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2 4 31 8 history 2 0.4 12.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 0 0 1010 1010 1070 1150 1270 2060 limit/base >20 limit/base >3 >20 >30	current 2 <1 60 <1 927 1112 917 1186 2935 current 4 2 3 current 8.4 50.4 77.3	history 1 5 2 72 <1 990 1216 1065 1283 3035 history 1 4 14 4 1.1 10.7 23.7	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2 4 31 8 history 2 0.4 12.8 24.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	<pre>limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >20 limit/base >3 >20 s30</pre>	current 2 <1 60 <1 927 1112 917 1186 2935 current 4 2 3 current 8.4 50.4 77.3 current	history 1 5 2 72 71 990 1216 1065 1283 3035 history 1 4 14 4 history 1 1.1 1.1 1.07 23.7 history 1	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2 4 31 8 history 2 0.4 12.8 24.3 history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7415 method *ASTM D7414	limit/base 0 0 1010 1010 1070 1150 1270 2060 limit/base >20 limit/base >3 >20 ≥30 limit/base	current 2 <1 60 <1 927 1112 917 1186 2935 current 4 2 3 current 8.4 50.4 77.3 current 116.8	history 1 5 2 72 <1 990 1216 1065 1283 3035 history 1 4 14 4 history 1 1.1 10.7 23.7 history 1 21.6	history 2 11 1 77 <1 955 1217 1015 1260 2893 history 2 4 31 8 history 2 0.4 12.8 24.3 history 2 24.4



OIL ANALYSIS REPORT







	VISUAL		method	limit/base	e	current	history 1	history 2
	White Metal	scalar	*Visual	NONE		NONE	NONE	NONE
1	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
14/22 12/23	Appearance	scalar	*Visual	NORML		NORML	NORML	NORML
Jan Jan Ju	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	e	current	history 1	history 2
	Visc @ 100°C	cSt	ASTM D445	15.4		17.6	13.8	12.8
\sim	GRAPHS							
	Ferrous Alloys							
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	r ™	Ma	Jai , Fe	-	7	Ma	Ma	- P
Laboratory	: WearCheck USA - 5	501 Madi	son Ave., Ca	ry, NC 2751	13	GFL Enviro	nmental - 005 - Wils	on/Tri-East(CNG)

: 06 Jul 2023

: 07 Jul 2023

: Don Baldridge



 Certificate L2367
 Test Package
 : FLEET

 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

: GFL0086426

: 05891047

Sample No.

Lab Number

Unique Number : 10546857

Submitted By: WALTER SKOKOWSKI

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