

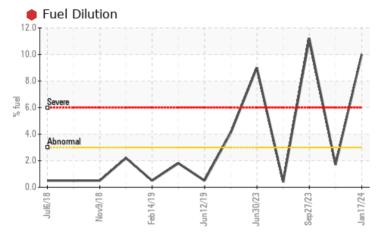
# **PROBLEM SUMMARY**

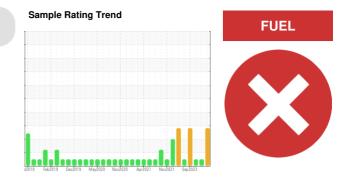
#### Area (EMN864) Machine Id AUTOCAR 10854 Component

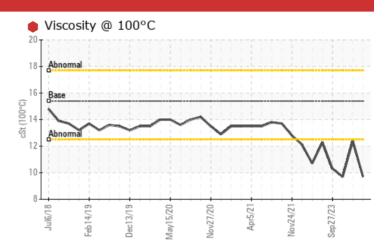
**Diesel Engine** 

Fluid PETRO CANADA DURON SHP 15W40 (7 GAL)

## COMPONENT CONDITION SUMMARY







## RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

PROBLEMATIO	C TES	<b>FRESULT</b>	S			
Sample Status				SEVERE	NORMAL	NORMAL
Fuel	%	ASTM D3524	>3.0	🛑 10.0	<1.0	1.7
Visc @ 100°C	cSt	ASTM D445	15.4	9.7	12.4	9.7

Customer Id: GFL009 Sample No.: GFL0109091 Lab Number: 06066610 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

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

RECOMMENDE	JACTIONS			
Action	Status	Date	Done By	Description
Change Fluid			?	We recommend that you drain the oil from the component if this has not already been done.
Resample			?	We recommend an early resample to monitor this condition.
Check Fuel/injector System			?	We advise that you check the fuel injection system.

## HISTORICAL DIAGNOSIS





11 Jan 2024 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.



view report

## 05 Jan 2024 Diag: Sean Felton

Posample at the payt convice

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.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.

### 27 Sep 2023 Diag: Wes Davis



We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. 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. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.





# **OIL ANALYSIS REPORT**

Sample Number

hrs

hrs

Sample Date

Machine Age

Oil Changed

Sample Status

Oil Age

# (EMN864) **AUTOCAR 10854** Component

**Diesel Engine** Fluic

PETRO CANADA DURON SHP 15W40 (7 GAL)

### DIAGNOSIS

### Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.



CONTAMINATION	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	18	9	16
Chromium	ppm	ASTM D5185m	>5	1	<1	1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	4	2	2
Lead	ppm	ASTM D5185m	>25	0	<1	<1
Copper	ppm	ASTM D5185m	>100	1	5	1
Tin	ppm	ASTM D5185m	>4	0	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1

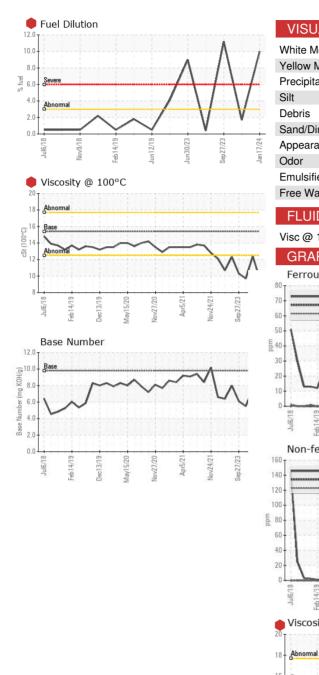
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	9	19	11
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	50	59	53
Manganese	ppm	ASTM D5185m	0	0	<1	<1
Magnesium	ppm	ASTM D5185m	1010	599	743	604
Calcium	ppm	ASTM D5185m	1070	936	1069	1000
Phosphorus	ppm	ASTM D5185m	1150	749	960	696
Zinc	ppm	ASTM D5185m	1270	911	1123	942
Sulfur	ppm	ASTM D5185m	2060	2358	2795	2422
CONITANAINIAN	ITO	ام ممالح میں	line it /le e e e		In the tank of the	histow.0

CONTAMIN	IANTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	8	3	10
Sodium	ppm	ASTM D5185m		4	6	1
Potassium	ppm	ASTM D5185m	>20	3	2	3
Fuel	%	ASTM D3524	>3.0	10.0	<1.0	1.7

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	0.7	0.4	0.6
Nitration	Abs/cm	*ASTM D7624	>20	10.5	6.6	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	17.6	19.4
FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.6	12.2	15.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.1	7.5	5.5



# **OIL ANALYSIS REPORT**



	VISUAL		method	limit/base	e current	history1	history2
· · · · · · · · · · · · · · · · · · ·	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
$\wedge / \rangle /$	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
$\sim$ v '	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
2/19 1/23		scalar	*Visual	NORML	NORML	NORML	NORML
Jun 12/19 Jun 30/23 Sep 27/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual	2 U.L	NEG	NEG	NEG
				line it /le e e			
			method	limit/base		history1	history2
$\sim \sim \sim$	Visc @ 100°C	cSt	ASTM D445	15.4	9.7	12.4	9.7
$\mathcal{M}\mathcal{N}$	GRAPHS						
N	Ferrous Alloys						
ov27/20 - Apr5/21 - iov24/21 -	70 - iron						
Nov27/20 Apr5/21 Nov24/21 Sep27/23	60 - nickel		in in the second				
	50-						
	튭 40 -						
	30	1.1	N = 1				
		100	WL	21			
Y V							
		7/20	Apr5/21- ov24/21-	100			
	Jul6/18 Feb14/19 Dec13/19	Nov27/20	Apr5/21 Nov24/21	adat			
	Non-ferrous Meta	ls					
Nav27/20 Apr5/21 Nav24/21 Sep27/23	160 T		70000				
Nov2 Ap Novi Sep2	140 - copper lead						
	120 - tin	11111111					
	100						
	B. 80-						
	60 -						
	60						
	60 - 40 - 20 - 20 - 20 - 20 - 20 - 20 - 2		^				
	60	7/20	5/21 4/21				
	60 - 40 - 20 - 20 - 20 - 20 - 20 - 20 - 2	02/LZvoN	Apt5/21	dahritra d			
	60 40 20 61/51/20 61/51/20 81/90 61/51/20 90 90 90 90 90 90 90 90 90 90 90 90 90	~	Apr5/21 Nov24/21		Baco Number		
	00 40 20 0 8 10 10 10 10 10 10 10 10 10 10 10 10 10	~	Apri5/21	*	Base Number		
	60 40 20 61/51/20 61/51/20 81/90 61/51/20 90 90 90 90 90 90 90 90 90 90 90 90 90	~	Ap(5/21)	1	12.0		
	Contraction of the second seco	~	Apr5/21	1	2.0 10.0 - Base		
	O O O O O O O O O O O O O O	~	Apr5/21	1	12.0	~~~~	100
	Viscosity @ 100°C	~	Apr5/21 Nov24/21	1	2.0 10.0 - Base	~~~	M
	Contraction of the second seco	~	Apris/21	1	8.0 Base	~~~~	M
	Viscosity @ 100°C	~	Ap(5/21)	Base Number (mg KOH/g)	8.0 6.0 4.0	~~~	M
	Viscosity @ 100°C	~	Ap(5/21)	Base Number (mg KOH(g)	2.0 0.0 8.0 6.0 4.0 2.0	~~~	M
	Viscosity @ 100°C		- <u>_</u>	Base Number (mg KOH(g)	2.0 Base 8.0 6.0 4.0 2.0 0.0	20	<sup>(2)</sup>
	Viscosity @ 100°C		- <u>_</u>	Base Number (mg KOH(g)	2.0 Base 8.0 6.0 4.0 2.0 0.0	lav15/20	lon2421-
	Viscosity @ 100°C			Base Number (mg KOH(g)	2.0 Base 8.0 6.0 4.0 2.0 0.0	May15/20 Nov27/20 Apr5/21	Nov24/21 Sep27/23
Laboratory	Clock USA - 4		IZ/bZrow IZ/bZrow son Ave., Ca	(BHQ) fluir) Jaquinny asseg	2.0 0.0 8.0 6.0 4.0 2.0 0.0 8.0 8.0 6.0 4.0 2.0 0.0 8.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	≥ ≥ nvironmental -	009 - Fairburn
Sample No.	Viscosity @ 100°C	501 Madia	IZUPSTON IZUPSTON Son Ave., Ca	(BHQ) Bull Jaquing eeg Markov State Intry, NC 275 Jan 2024	2.0 0.0 8.0 6.0 4.0 2.0 0.0 8.0 8.0 6.0 4.0 2.0 0.0 8.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	≥ ≥ nvironmental -	<b>009 - Fairburn</b> Roosevelt Hwy
Sample No. Lab Number	Uscosity @ 100°C	501 Madia Recieved Diagnos	IZISTAN IZISTAN Son Ave., Ca d : 22 ed : 24	(BHQ) Bull Jaquing eeg Intry, NC 275 Jan 2024 Jan 2024	2.0 0.0 8.0 6.0 4.0 2.0 0.0 8.0 8.0 6.0 4.0 2.0 0.0 8.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 6.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8.0 8	≥ ≥ nvironmental -	<b>009 - Fairburn</b> Roosevelt Hwy Fairburn, GA
Sample No. Lab Number Unique Numbe	Uiscosity @ 100°C	501 Madia Recieved Diagnos	tician : We	ary, NC 275 Jan 2024 Jan 2024 s Davis	220 8.0 6.0 4.0 2.0 0.0 8.0 6.0 4.0 2.0 0.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	≤ ≥ nvironmental - 6905	009 - Fairburn Roosevelt Hwy Fairburn, GA US 30213
Sample No. Lab Number	Wiscosity @ 100°C Wiscosity @ 100°C Wiscosity @ 100°C Uscosity @ 100°C	501 Madia Recieved Diagnost Tests: Fu	son Ave., Ca d : 22 ed : 24 tician : We relDilution, P	ary, NC 275 Jan 2024 Jan 2024 s Davis ercentFuel	220 8.0 6.0 4.0 2.0 0.0 8.0 6.0 4.0 2.0 0.0 8.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	s ≥ nvironmental - 6905 Con:	009 - Fairburr Roosevelt Hwy Fairburn, GA US 30213 tact: Eric Jones
Sample No. Lab Number Unique Number tificate L2367 Test Package	Wiscosity @ 100°C Abnomal Control of the lise of the	501 Madia Recieved Diagnost Tests: Fu vice at 1-8 17025 sco	tician : We pool-237-1365 pe of accred	ry, NC 275 Jan 2024 Jan 2024 Jan 2024 s Davis ercentFuel 2. litation.	220 80 80 60 40 20 00 60 60 60 60 60 60 60 60 6	s 2 nvironmental - 6905 Con erjona T:	009 - Fairburn Roosevelt Hwy Fairburn, GA US 30213

Report Id: GFL009 [WUSCAR] 06066610 (Generated: 01/24/2024 14:22:01) Rev: 1

Submitted By: Eric Jones Page 4 of 4