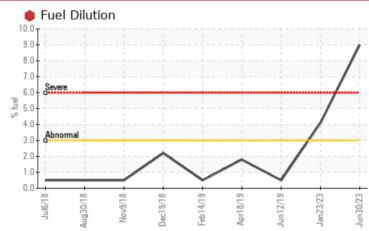


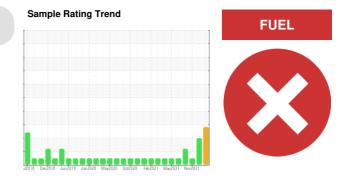
PROBLEM SUMMARY

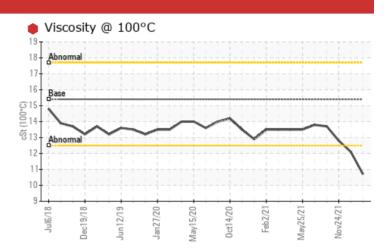
CUMMINS 10854

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.

PROBLEMATIC TEST RESULTS									
Sample Status				SEVERE	ABNORMAL	NORMAL			
Fuel	%	ASTM D3524	>3.0	9.0	4 .1	<1.0			
Visc @ 100°C	cSt	ASTM D445	15.4	• 10.7	1 2.1	12.8			

Customer Id: GFL009 Sample No.: GFL0057569 Lab Number: 05899638 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

RECOMMENDED ACTIONS								
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



23 Jan 2023 Diag: Jonathan Hester

Resample at the next service interval to monitor. The iron level is abnormal. All other component wear rates are normal. Light fuel dilution occurring. Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.



view report



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.

indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

04 Aug 2021 Diag: Jonathan Hester



No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Sodium and/or potassium levels are high. Test for glycol is negative. The BN result







OIL ANALYSIS REPORT

Base Number (BN) mg KOH/g ASTM D2896 9.8

Sample Rating Trend

FUEL

Machine Id **CUMMINS 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.

AL)		J2018 Dec20	118 Jun2019 Jan2020 M	av2020 0ct2020 Feb2021 May2021	Nov2021	
SAMPLE INFOR	RMATION	method	limit/base	e current	history1	history2
Sample Number		Client Info		GFL0057569	GFL0057620	GFL0032971
Sample Date		Client Info		30 Jun 2023	23 Jan 2023	24 Nov 2021
Machine Age	hrs	Client Info		2660	0	32562
Oil Age	hrs	Client Info		2660	0	9369
Oil Changed		Client Info		N/A	N/A	Changed
Sample Status				SEVERE	ABNORMAL	NORMAL
CONTAMINAT	TION	method	limit/base	e current	history1	history2
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	e current	history1	history2
Iron	ppm	ASTM D5185m	>75	13	▲ 76	9
Chromium	ppm	ASTM D5185m	>5	<1	3	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>15	2	5	0
Lead	ppm	ASTM D5185m	>25	0	<1	0
Copper	ppm		>100	1	18	<1
Tin	ppm	ASTM D5185m	>4	<1	1	0
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	e current	history1	history2
Boron	ppm	ASTM D5185m		11	4	28
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	55	56	14
Manganese	ppm	ASTM D5185m		<1	1	<1
Magnesium	ppm	ASTM D5185m	1010	646	762	186
Calcium	ppm	ASTM D5185m	1070	917	1138	2400
Phosphorus	ppm	ASTM D5185m	1150	800	853	893
Zinc	ppm			969	1183	898
Sulfur	ppm	ASTM D5185m	2060	2396	2652	3932
CONTAMINAN	NTS	method	limit/base	e current	history1	history2
Silicon	ppm			4	9	10
Sodium	ppm	ASTM D5185m		0	3	23
Potassium	ppm	ASTM D5185m		1	2	9
Fuel	%	ASTM D3524	>3.0	9.0	▲ 4.1	<1.0
INFRA-RED		method	limit/base	e current	history1	history2
Soot %	%	*ASTM D7844	>6	0.5	1.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.3	13.4	5.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.6	22.5	19
FLUID DEGRA	DATION		limit/base		history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.2	18.8	12.1
D	KOUL	LOTH DOGO	0.0		0.0	10.0

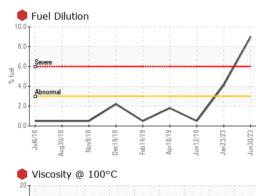
10.2

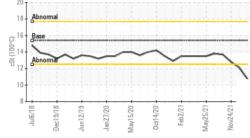
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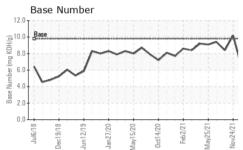
6.4



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
		1	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
1			Silt	scalar	*Visual	NONE	NONE	NONE	NONE
		/	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
\checkmark			Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Feb14/19 Apr18/19	12/19	Jan 23/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Feb		Jan	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
			Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
			Free Water	scalar	*Visual		NEG	NEG	NEG
			FLUID PROF	PERTIES	method	limit/base	current	history1	history2
~			Visc @ 100°C	cSt	ASTM D445	15.4	• 10.7	1 2.1	12.8
	~		GRAPHS						
			Ferrous Alloys						
			80 iron			1			
0ct14/20	Feb2/21	May25/21 Nov24/21	70 - chromium			1			
0c	-	Ma	60 - NICKE			A			
			<u>ق</u> 40			II.			
			30-			11			
	-	~1	20-		$\mathcal{N}\mathcal{N}$	1.1.			
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			0						
			Jul6/18 Jul6/18 Dec19/18 Jun12/19	May15/20 0ct14/20	Feb2/21 May25/21	Nov24/21			
			Jun	May	May	Nov			
	<u>.</u>	444	– Non-ferrous Me	tals					
0ct14/20	Feb2/21	May25/21 Nov24/21	160 copper]						
0ct 0ct	æ	Mar							
			120 - tin						
			100 - 24						
			E C C C C C C C C C C C C C C C C C C C						
			톮 80-						
			60						
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			60 40 20			~			
				/20	2/21 >				
			60 40 20	May15/20	Feb221	Nov2421			
				2	Feb221->> May25/21	Aurz421	Baco Numbo	r	
			60 40 0 0 8/1/gin 6/7/21 10/02/20 0 8/1/gin 9 Viscosity @ 100		Feb.2/21 - >> Mar/25/21	A 12:42:00	Base Numbe	r	
			60 40 0 80 80 80 80 80 80 80 80 80 80 80 80		feb2/21->	12.	⁰	r	
			60 40 20 0 81/6129 91/71 un Viscosity @ 100 19 18 Abnomal		Feb2/21->	12.	0 - Base	r	~~~~
			60 40 20 0 8U/gin 6U/Z lun 9 Viscosity @ 1000 10 10 10 10 10 10 10 10 10		Feb221 >	12.	0 - Base	r	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
			60 40 20 0 8U/gin 6U/Z/lun 8U/gin 9 Viscosity @ 1000 10 8 8 8 8 9 8 9 8 9 9 8 9 9 8 9 9 9 9 9		Feb.221 ->	12.	0 0 Base	r 	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
			60 40 20 0 80/61:30 10 0 10 10 10 10 10 10 10 10		Feb2/21	12.	0 0 0 0 0	r	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
			60 40 20 0 80/61:20 10 10 10 10 10 10 10 10 10 1		Feb2/21	12. 10. (0)HOX Wu) Jaquerum V 88. Wu) Jaquerum V 888 89.	0 0 0 0 0	r	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
			60 40 20 0 80/61:30 10 0 10 10 10 10 10 10 10 10		Feb.221->	12.	0 0 0 0 0	r	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
			60 40 20 0 80/61/20 19 19 10 10 10 10 10 10 10 10 10 10		~~~~	12. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	0 0 0 0 0 0 0	~~~~	~~~~
			60 40 20 0 80/61/20 19 19 10 10 10 10 10 10 10 10 10 10		~~~~	12. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	0 0 0 0 0 0 0	~~~~	eb.221 1/25/21 1/24/21
			60 40 20 0 0 0 0 0 0 0 0 0 0 0 0 0		~~~~	12. 10. (0)HOX 8. 10. 10. (0)HOX 8. 10. 10. 8. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	0 0 0 0 0 0 0 0 0 0	~~~~	Feb.221 + May2521 + May2521 + May2521 + Mov2421 + Mov241 + Mov241 + Mov241 + Mov241 + Mov241 + M
		horstor	60 40 20 0 0 0 0 0 0 0 0 0 0 0 0 0	0ct14/20	Feb:2/21	12. 10. (b)HOX (b)HOX	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Jan21/20	
		borator	viscosity @ 100 building of the second of t	- 501 Madia	Here's Carlos (1997)	12. 10. 10. 10. 10. 10. 10. 10. 10	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Jar21/2/0 May15/20 Oct14/20 Eunvironmental -	009 - Fairbu
	Sa	aborator ample N	y : WearCheck USA o. : GFL0057569	0ct14/20	+12/52/Jeg son Ave., Ca d : 17,	12. 10. (b)HOX (b)HOX	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Jar21/2/0 May15/20 Oct14/20 Eunvironmental -	
	Sa La	mple N	ry : WearCheck USA 0. : GFL0057569 0.5899638	p°C	+	12. 10. 10. 10. 10. 10. 10. 10. 10	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Jar21/2/0 May15/20 Oct14/20 Eunvironmental -	009 - Fairbu Roosevelt Hv
	Sa La Un Te	ample N Ib Numb Ique Nur Ist Pack	ry : WearCheck USA ber : 05899638 mber : 10560994	- 501 Madii Received Diagnos al Tests: Fu	son Ave., Ca d : 17 ed : 24 tician : We uelDilution, P	12. (0)(H(X) W) Jaquin 4. (0)(H(X) W) Jaqui	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		009 - Fairbu Roosevelt Hv Fairburn, G

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

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