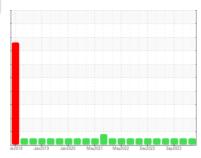


OIL ANALYSIS REPORT

Sample Rating Trend







701047 Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (20 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

LIN)		sb2018 Ja	n2019 Jan2020 May2	021 May2022 Dec2022 S	Sep2023	
SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0110735	GFL0097452	GFL0085686
Sample Date		Client Info		14 Feb 2024	30 Nov 2023	07 Sep 2023
Machine Age	hrs	Client Info		570	570	0
Oil Age	hrs	Client Info		570	570	0
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINA	TION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAI	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	8	14	9
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	0	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	2	2	3
Lead	ppm	ASTM D5185(m)	>40	<1	<1	0
Copper	ppm	ASTM D5185(m)	>330	1	2	1
Tin	ppm	ASTM D5185(m)	>15	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	2	2	1
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	55	55	56
Manganese	ppm	ASTM D5185(m)	0	0	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	892	886	943
Calcium	ppm	ASTM D5185(m)	1070	988	963	1003
Phosphorus	ppm	ASTM D5185(m)	1150	946	907	1017
Zinc	ppm	ASTM D5185(m)	1270	1111	1123	1163
Sulfur	ppm	ASTM D5185(m)	2060	2448	2247	2450
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINA	NTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	2	3	3
Sodium	ppm	ASTM D5185(m)		2	2	2
Potassium	ppm	ASTM D5185(m)	>20	1	1	<1
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.2	0.3	1.7
Nitration	Abs/cm	ASTM D7624*	>20	9.2	9.9	16.5
Cultation	Alaa / dur	ACTM D744 F*	00	40.0	01.5	00.0

Sulfation

Abs/.1mm ASTM D7415* >30

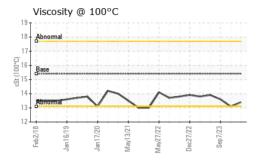
19.8

21.5

23.2



OIL ANALYSIS REPORT



FLUID DEGRA	OITAC	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.7	19.3	35.8
VISUAL		method	limit/base	current	history1	history2
Emulsified Water Free Water	scalar scalar	Visual* Visual*	>0.2	NEG NEG	NEG NEG	NEG NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.4	13.1	13.6
ODABLIO						

V 15	c @ 100	C	CO	L r	OTIVI DIZI	(III) I J		3.4		10.1		10	.0
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150							60						
100 -	bnormal						40 - AL	normal					
50							20						
0			¥	7	2	23	. 0	6			2	2	22
Feb2/18	Jan 16/19	Jan17/20	May13/21	May27/22	Dec27/22	Sep7/23	Feb2/18	Jan 16/19	Jan 17/20	May13/21	May27/22	Dec27/22	Sep7/23
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							30						
E .	bnormal						E	normal					
10-						+	10-						
0				2	2	3	. 0	6			2	2	3
Feb2/18	Jan 16/19	Jan 17/20	May13/21.	May27/22	Dec27/22	Sep7/23-	Feb2/18	Jan 16/19	Jan 17/20	May13/21	May27/22	Dec27/22	Sep7/23
С	opper (p			_			Si	icon (p		_	_		
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400 - S	evere bitormal						50 -						
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100 -							20 -	illoittiai		^	\		
0	6	0.		2	2	23	. 0	6			<u></u>	2	
Feb2/18	Jan 16/19	Jan17/20	May13/21	May27/22	Dec27/22	Sep7/23	Feb2/18	Jan16/19	Jan17/20	May13/21	May27/22	Dec27/22	Sep7/23
	iscosity (@ 100	°C					ot %					
19 18 - A	bnormal						6.0 Se	vere					
17-							4.0						
(100-CSt (10	ase						8	normal					
14+	bnormal	V	1	/		~	2.0						Λ
12		00	IZ		22	23	. 00	6	-		22	22	<u> </u>
Feb2/18	Jan 16/19	Jan17/20	May13/21	May27/22	Dec27/22	Sep7/23	Feb2/18	Jan 16/19	Jan 17/20	May13/21	May27/22	Dec27/22	Sep7/23
	-	-	_	~	_			,	-	_	~	_	



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: GFL0110735 Lab Number : 02616138 Unique Number : 5733248 Test Package : MOB 1

Tested

Received : 16 Feb 2024 : 16 Feb 2024 Diagnosed

: 16 Feb 2024 - Wes Davis

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 221 - Windsor 905 Tecumseh Road W Windsor, ON **CA N8W 4J5** Contact: Rhys Marotte rmarotte@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

T:

F: