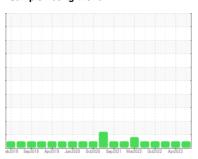


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



701050
Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

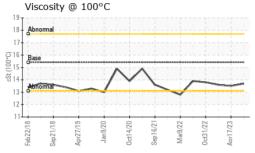
Fluid Condition

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

GAL)		eb2018 Sep20	18 Apr2019 Jan2020 Oc	ct2020 Sep2021 Mar2022 Oct2022	Apr2023	
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0077308	GFL0070430	GFL0059873
Sample Date		Client Info		12 Jul 2023	17 Apr 2023	24 Jan 2023
Machine Age	hrs	Client Info		0	514	0
Oil Age	hrs	Client Info		0	514	0
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	16	12	14
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	0	0	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	1	1	2
Lead	ppm	ASTM D5185(m)	>40	0	0	<1
Copper	ppm	ASTM D5185(m)	>330	2	1	1
Tin	ppm	ASTM D5185(m)	>15	0	0	<1
Antimony	ppm	ASTM D5185(m)		0	0	<1
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	0
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	58	56	58
Manganese	ppm	ASTM D5185(m)	0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	937	920	932
Calcium	ppm	ASTM D5185(m)	1070	1021	1072	1109
Phosphorus	ppm	ASTM D5185(m)	1150	1003	1020	1050
Zinc	ppm	ASTM D5185(m)	1270	1165	1168	1185
Sulfur	ppm	ASTM D5185(m)	2060	2275	2406	2448
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	5	5	6
Sodium	ppm	ASTM D5185(m)		2	2	8
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1
INFRA-RED		method	limit/base		history1	history2
Soot %	%	ASTM D7844*	>3	0.4	0.2	0.2
Nitration	Abs/cm	ASTM D7624*	>20	10.2	9.5	9.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.7	20.5	22.1
FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	19.0	17.9	18.7



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.7	13.5	13.6
GRAPHS						

Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.7	13.5	13.6
GRAPHS						
Iron (ppm)				Lead (ppm	i) :::	
200 Severe				80 Severe		
150				60		
Abnormal				Abnormal		
				20		
50	\\			10-		
Sep21/18 + Apr27/19 - Jan9/20 +	Oct14/20	Mar9/22	Apr17/23	Sep21/18	Jan 9/20	Sep16/21-
	Oct Sep	M _č	Арг			Sep Ma Oct
Aluminum (ppm)			-1-1-	Chromium	(ppiii)	
40 - Severe 35				35		
30				30		
Abnomal	-		-	Abnormal		
10				10		
5	_			0		
Sep21/18 - Apr27/19 - Jan9/20 -	Oct14/20 Sep16/21	Mar9/22	Apr17/23	Feb22/18 Sep21/18	Jan 9/20	Sep16/21. Mar9/22. Oct31/22.
Copper (ppm)				Silicon (pp		
Severe				Severe		
300				60		
250 = 1 = 200 = 20				50 +		
150				30 - Abnormal		
50				10		
0 1 9 1 9 1 9	20	22	23	0 8 8 6	202	22
Sep 21/18 - Apr 27/19 - Jan 9/20 -	Oct14/20 Sep16/21	Mar9/22	Apr17/23	Feb22/18 Sep21/18	Jan9/20	Sep16/21 Mar9/22 Oct31/22
Viscosity @ 100°C	;			Soot %		
18 - Abnormal			-	5.0 Severe		
016				4.0		
3 16 Base Base	\	***************************************		Abnormal		
3 14 13 Abhormal	v /	V		2.0		
12				1.0		
11/18	4/20-	9/22	7/23	0.0	9/20	9/22



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5607404

Test Package : MOB 1

: 02570358

: GFL0077308

Received Diagnosed

: 17 Jul 2023 : 17 Jul 2023

Diagnostician : 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: