

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 929014-1268

Component Diesel Engine Fluid

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Sampled oil)

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

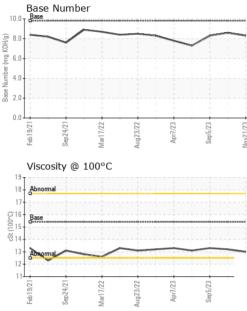
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

iAL)						
SAMPLE INFORM		method	limit/base	Aug2022 Apr2023 Sep2023 CUrrent	history1	history2
Sample Number		Client Info	initia base	GFL0102774	GFL0090515	GFL0078748
Sample Date		Client Info		21 Nov 2023	18 Sep 2023	05 Sep 2023
Machine Age	hrs	Client Info		13337	12872	12758
Oil Age	hrs	Client Info		465	582	452
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	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 METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	8	7
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m		1	0	<1
Lead	ppm	ASTM D5185m	>40	2	<1	<1
Copper	ppm	ASTM D5185m		1	2	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base		history1	history2
Boron	ppm	ASTM D5185m	0	6	5	5
Barium	ppm		0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	57	61	60
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	847 1029	999 1127	920 1055
Calcium	ppm	ASTM D5185m ASTM D5185m	1070 1150	1029	1055	993
Phosphorus Zinc	ppm ppm	ASTM D5185m	1270	1180	1302	1186
Sulfur	ppm	ASTM D5185m		2925	3688	3450
CONTAMINAN		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m		4	3	3
Sodium	ppm	ASTM D5185m		4	3	3
Potassium	ppm	ASTM D5185m	>20	1	<1	0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.3	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.6	7.8	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.2	19.0	17.8
FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.0	14.9	13.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.3	8.6	8.3

Page 1 of 2



OIL ANALYSIS REPORT



Yellow Metal scalar *Visual NONE NONE NONE NONE NO Precipitate scalar *Visual NONE NONE NONE NO Silt scalar *Visual NONE NONE NONE NO Debris scalar *Visual NONE NONE NO NO Sand/Dirt scalar *Visual NONE NONE NO NO Appearance scalar *Visual NORML NORML NO Odor scalar *Visual NORML NORML NO Emulsified Water scalar *Visual >0.2 NEG NEG Free Water scalar *Visual >0.2 NEG NEG Visc @ 100°C cSt ASTM D445 15.4 13.0 13.3 GRAPHS Ferrous Alloys Standard and and and and and and and and and an	ONE	history
Precipitate scalar *Visual NONE NONE NONE NO Silt scalar *Visual NONE NONE NO Debris scalar *Visual NONE NONE NO Sand/Dirt scalar *Visual NONE NONE NO Appearance scalar *Visual NORML NORML NO Odor scalar *Visual NORML NORML NO Emulsified Water scalar *Visual >0.2 NEG NEG Free Water scalar *Visual NORML NEG NEG Free Water scalar *Visual NORML NEG NEG Free Water scalar *Visual NORML NO Sand/Dirt Scalar *Visual NORML NORML NO Emulsified Water scalar *Visual NORML NORML NO Free Water scalar *Visual NORML NO Free Water scalar *Visual NORML NEG NEG Ferrous Alloys Mon-ferrous Metals 0 0 0 0 0 0 0 0 0 0 0 0 0		NONE
Silt scalar *Visual NONE NONE NO Debris scalar *Visual NONE NONE NO Sand/Dirt scalar *Visual NONE NONE NO Appearance scalar *Visual NORML NORML NO More scalar *Visual NORML NORML NO Emulsified Water scalar *Visual >0.2 NEG NEG Free Water scalar *Visual NORML NO MEG NEG State State	ONE	NONE
Debris scalar *Visual NONE NONE NO Sand/Dirt scalar *Visual NONE NONE NO Appearance scalar *Visual NORML NORML NO Odor scalar *Visual NORML NORML NO Emulsified Water scalar *Visual >0.2 NEG NEG Free Water scalar *Visual NEG NEG Free Water scalar *Visual NEG NEG Visc @ 100°C cSt ASTM D445 15.4 13.0 13.4 GRAPHS Ferrous Alloys	ONE	NONE
Sand/Dirt scalar *Visual NONE NONE NO Appearance scalar *Visual NORML NORML NO Odor scalar *Visual NORML NORML NO Emulsified Water scalar *Visual >0.2 NEG NEG Free Water scalar *Visual NEG NEG NEG NEG Scalar *Visual NORML NO Neg NEG Neg NEG Neg NEG Norferrous Alloys Non-ferrous Metals Non-ferrous Metals	ONE	NONE
Appearance scalar *Visual NORML NORML NO Odor scalar *Visual NORML NORML NO Emulsified Water scalar *Visual >0.2 NEG NEG Free Water scalar *Visual NEG NEG Free Water scalar *Visual NEG NEG Visc @ 100°C cSt ASTM D445 15.4 13.0 13.3 GRAPHS Ferrous Alloys Non-ferrous Metals	ONE	NONE
Odor scalar *Visual NORML NORML NO Emulsified Water scalar *Visual >0.2 NEG NEG Free Water scalar *Visual NEG NEG Free Water scalar *Visual NEG NEG NEG NEG Free Water scalar *Visual NEG NEG NEG NEG Visc @ 100°C cSt ASTM D445 15.4 13.0 13.3 GRAPHS Ferrous Alloys Non-ferrous Metals	ONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG Free Water scalar *Visual NEG NEG FLUID PROPERTIES method limit/base current hi Visc @ 100°C cSt ASTM D445 15.4 13.0 13.3 GRAPHS Ferrous Alloys Non-ferrous Metals Non-ferrous Metals	ORML	NORML
Free Water scalar *Visual NEG NEG FLUID PROPERTIES method limit/base current hi Visc @ 100°C cSt ASTM D445 15.4 13.0 13.3 GRAPHS Ferrous Alloys Image: Comparison of the second of the	ORML	NORML
FLUID PROPERTIES method limit/base current hi Visc @ 100°C cSt ASTM D445 15.4 13.0 13.3 GRAPHS Ferrous Alloys		NEG
Visc @ 100°C cSt ASTM D445 15.4 13.0 13.3 GRAPHS Ferrous Alloys	EG	NEG
Ferrous Alloys	history1	history
Ferrous Alloys	3.2	13.3
18 16 14 12 10 8 6 4 2 0 12/hZdds 12/hZds 12/hZdds 12/hZdds 12		
Non-ferrous Metals		
Non-ferrous Metals		
140 120 100 80 60 40		
00		
80		
60		
Feb19/21 Sep24/21 Aug23/22 Sep5/23 Nov21/23		

Base Number

Sep24/21

Mar17/22

10.0 Base

8. (mg KOH/g)

6 (

0.0

Feb19/21

Number (4 (Base



Unique Number : 10756284 Diagnostician : Sean Felton Test Package : FLEET Contact: GARY BREWER Certificate L2367 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)

Mar17/22

Aug23/22

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Diagnosed

Apr7/23 -

Sep5/23.

Nov21/23 -

: 24 Nov 2023

: 28 Nov 2023

Viscosity @ 100°C

19

18 17

()-16 ()-00 () 15 () 14

12 11-

Laboratory Sample No.

Lab Number

Feb19/21-

Sep24/21.

: GFL0102774

: 06017140

Ba

Nov21/23 -

Submitted By: TECHNICIAN ACCOUNT

Apr7/23 -

GFL Environmental - 622 - Traverse City Hauling

Aug23/22

Sep5/23.

160 Hughes Dr

US 49686

Traverse City, MI

T: F: