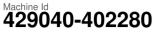


OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine

Fluid

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

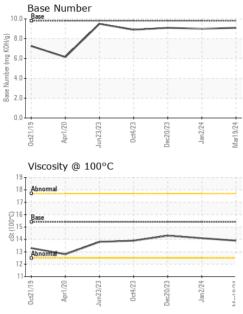
Fluid Condition

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

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0105117	GFL0105147	GFL0105163
Sample Date		Client Info		19 Mar 2024	02 Jan 2024	20 Dec 2023
Machine Age	hrs	Client Info		10085	10054	10054
Oil Age	hrs	Client Info		600	150	150
Oil Changed	1110	Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
•		and the set	L'and the states	-	-	
CONTAMINAT	ION	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 METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4	2	3
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	2	1
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		•	0	0
	ppin	ASTIVI DSTOSIII		0	0	0
ADDITIVES	ppm	method	limit/base	current	0 history1	history2
	ppm		limit/base	-	-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current	history1 2	history2 0
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 1 0	history1 2 0	history2 0 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 1 0 58	history1 2 0 59	history2 0 0 53
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 1 0 58 0	history1 2 0 59 <1	history2 0 0 53 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 1 0 58 0 922	history1 2 0 59 <1 949	history2 0 0 53 0 926
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 1 0 58 0 922 1080	history1 2 0 59 <1 949 1066	history2 0 0 53 0 926 979
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	current 1 0 58 0 922 1080 1078	history1 2 0 59 <1 949 1066 1068	history2 0 0 53 0 926 979 1044
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 1 0 58 0 922 1080 1078 1242	history1 2 0 59 <1 949 1066 1068 1236	history2 0 0 53 0 926 979 1044 1220
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	Current 1 0 58 0 922 1080 1078 1242 3194	history1 2 0 59 <1 949 1066 1068 1236 3183	history2 0 0 53 0 926 979 1044 1220 3090
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 1 0 58 0 922 1080 1078 1242 3194 current	history1 2 0 59 <1 949 1066 1068 1236 3183 history1	history2 0 0 53 0 926 979 1044 1220 3090 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 kimit/base >25	current 1 0 58 0 922 1080 1078 1242 3194 current 4	history1 2 0 59 <1 949 1066 1068 1236 3183 history1 2	history2 0 0 53 0 926 979 1044 1220 3090 history2 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 kimit/base >25	current 1 0 58 0 922 1080 1078 1242 3194 current 4 <1	history1 2 0 59 <1 949 1066 1068 1236 3183 history1 2 2 2 2 2 2 2 2 2	history2 0 0 53 0 926 979 1044 1220 3090 history2 4 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	current 1 0 58 0 922 1080 1078 1242 3194 current 4 <1 2	history1 2 0 59 <1 949 1066 1068 1236 3183 history1 2 2 0	history2 0 0 53 0 926 979 1044 1220 3090 history2 4 2 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current 1 0 58 0 922 1080 1078 1242 3194 current 4 <1 2 current 0.2	history1 2 0 59 <1 949 1066 1068 1236 3183 history1 2 0 history1 0 history1 0.1	history2 0 0 53 0 926 979 1044 1220 3090 history2 4 2 0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current 1 0 58 0 922 1080 1078 1242 3194 current 4 <1 2 current	history1 2 0 59 <1 949 1066 1068 1236 3183 history1 2 2 0 history1 2 0 history1	history2 0 0 53 0 926 979 1044 1220 3090 history2 4 2 0 history2 0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 320 33 20 20 20	current 1 0 58 0 922 1080 1078 1242 3194 current 4 <1 2 current 0.2 4.8 17.5	history1 2 0 59 <1 949 1066 108 1236 3183 history1 2 2 0 history1 2 0 history1 0.1 4.6 17.2	history2 0 0 53 0 926 979 1044 1220 3090 history2 4 2 0 history2 0 100 101 1020 3090 history2 0 1220 0.2 5.1 17.9
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAM	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	current 1 0 58 0 922 1080 1078 1242 3194 current 4 <1 2 current 0.2 4.8 17.5 current	history1 2 0 59 <1 949 1066 1083 1236 3183 history1 2 2 0 history1 0 history1 0.1 4.6 17.2 history1	history2 0 0 53 0 926 979 1044 1220 3090 history2 4 2 0 history2 0 history2 0 history2 0.2 5.1 17.9 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 320 33 20 20 20 20 20 20 20 20 20 20 20 20 20	current 1 0 58 0 922 1080 1078 1242 3194 current 4 <1 2 current 0.2 4.8 17.5	history1 2 0 59 <1 949 1066 108 1236 3183 history1 2 2 0 history1 2 0 history1 0.1 4.6 17.2	history2 0 0 53 0 926 979 1044 1220 3090 history2 4 2 0 history2 0 1040 1220 3090 1220 0 history2 0.2 5.1 17.9



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
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.1	14.3
GRAPHS						
Ferrous Alloys						
25 T						
iron						
20 - nickel						
15						
10						
5-			-			
0						
	0ct4/23 -	3/23 -	9/24 -			
0ct21/19 Apr1/20 Jun23/23	0 ct4	Dec20/23 Jan2/24	Mar19/24			
Non-ferrous Meta	als		_			
50 copper						
In an I lead						
to I management tim						
30						
20						
10						
-						
23 Z0 10	/23 -	/23	/24 -			
0ct21/19 Apr1/20	0ct4/23	Jec20/23 Jan2/24	Mar19/24			
Viscosity @ 100°	c		2			
¹⁹ T	<u> </u>			Base Number		

10.0 Base

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0.0

0ct21/19

Apr1/20 -

Jun23/23

0ct4/23 -

GFL Environmental - 821 - Ozarks Hauling

Dec20/23

Jan2/24

33924 Olath Drive

Lebanon, MO

Mar19/24

F:

(mg KOH/g)

Number 4 (Base



Unique Number : 10940314 Diagnosed : 22 Mar 2024 - Wes Davis US 65536 Test Package : FLEET Contact: Landen Johnson Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. landen.johnson@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (417)664-0010 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Received

Tested

Jan2/24 -

Dec20/23

Mar19/24 -

: 22 Mar 2024

: 22 Mar 2024

18

17

B

0ct21/19

: GFL0105117

Apr1/20 .

un23/23

0ct4/23

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

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Laboratory Sample No.

Lab Number : 06126163