

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id **713020**

Fluid

Component Diesel Engine

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

10 011- 150040 (-	GAL)	Feb2023	May2023	p2023 Nov2023 Feb2024			
SAMPLE INFOF	RMATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		GFL0101609	GFL0100038	GFL006220	
Sample Date		Client Info		29 Feb 2024	27 Nov 2023	05 Sep 202	
Machine Age	hrs	Client Info		3802	3155	2566	
Oil Age	hrs	Client Info		259	205	778	
Oil Changed		Client Info		Not Changd	Not Changd	Not Chango	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINAT	ΓΙΟΝ	method	limit/base	current	history1	history	
Fuel		WC Method	>3.0	<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	>120	19	5	28	
Chromium	ppm	ASTM D5185m	>20	<1	0	1	
Nickel	ppm	ASTM D5185m	>5	3	<1	2	
Titanium	ppm	ASTM D5185m	>2	0	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	<1	
Aluminum	ppm	ASTM D5185m	>20	<1	<1	1	
Lead	ppm	ASTM D5185m	>40	<1	0	<1	
Copper	ppm	ASTM D5185m	>330	9	4	32	
Tin	ppm	ASTM D5185m	>15	<1	0	2	
Vanadium	ppm	ASTM D5185m		0	0	0	
Cadmium	ppm	ASTM D5185m		0	0	0	
ADDITIVES		method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	3	9	5	
Barium	ppm	ASTM D5185m	0	0	0	0	
Molybdenum	ppm	ASTM D5185m	60	68	69	64	
Manganese	ppm	ASTM D5185m	0	<1	0	2	
Magnesium	ppm	ASTM D5185m	1010	1025	1028	994	
Calcium	ppm	ASTM D5185m	1070	1213	1230	1174	
Phosphorus	ppm	ASTM D5185m	1150	1088	1168	984	
Zinc	ppm	ASTM D5185m		1336	1451	1352	
Sulfur	ppm	ASTM D5185m	2060	3081	3525	3028	
CONTAMINAN	NTS	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	3	3	8	
Sodium	ppm	ASTM D5185m		4	2	6	
Potassium	ppm	ASTM D5185m	>20	<1	<1	2	
INFRA-RED		method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>4	0.8	0.3	0.7	
Nitration	Abs/cm	*ASTM D7624	>20	10.0	6.2	9.9	
		+ A OTH A DEVIC		20.4	18.0	22.0	
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	10.0	22.0	
			>30 limit/base	current	history1		
Sulfation	DATION Abs/.1mm		limit/base >25			history2 18.6 5.9	

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Sample only A service at I completed. 259 hours on oil)

Wear

All component wear rates are normal.

Contamination

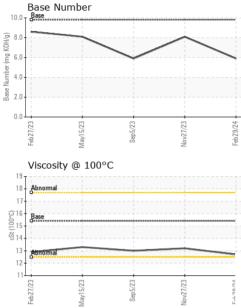
There is no indication of any contamination in the oil.

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.



OIL ANALYSIS REPORT



VISUAL White Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Wate Free Water FLUID PRO Visc @ 100°C GRAPHS Ferrous Alloy	scalar DPERTIES cSt	method *Visual	limit/base NONE NONE NONE NONE NORML NORML >0.2 limit/base	Current NONE NONE NONE NONE NORML NORML NEG NEG	history1 NONE NONE NONE NONE NORML NORML NEG NEG	history NONE NONE NONE NONE NORML NORML NEG NEG
Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Wate Free Water FLUID PRC Visc @ 100°C GRAPHS Ferrous Alloy	scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE NORML NORML >0.2	NONE NONE NONE NONE NORML NORML NEG NEG	NONE NONE NONE NONE NORML NORML NEG NEG	NONE NONE NONE NONE NORML NORML NEG
Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Wate Free Water FLUID PRO Visc @ 100°C GRAPHS Ferrous Alloy	scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NORML NORML >0.2 limit/base	NONE NONE NONE NORML NORML NEG NEG	NONE NONE NONE NORML NORML NEG NEG	NONE NONE NONE NORML NORML NEG
Silt Debris Sand/Dirt Appearance Odor Emulsified Wate Free Water FLUID PRC Visc @ 100°C GRAPHS Ferrous Alloy	scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NORML NORML >0.2 limit/base	NONE NONE NORML NORML NEG NEG	NONE NONE NORML NORML NEG NEG	NONE NONE NORML NORML NEG
Debris Sand/Dirt Appearance Odor Emulsified Wate Free Water FLUID PRO Visc @ 100°C GRAPHS Ferrous Alloy	scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual	NONE NORML NORML >0.2 limit/base	NONE NORML NORML NORML NEG NEG	NONE NORML NORML NEG NEG	NONE NORE NORML NORML NEG
Sand/Dirt Appearance Odor Emulsified Wate Free Water FLUID PR Visc @ 100°C GRAPHS Ferrous Alloy	scalar scalar scalar scalar scalar scalar DPERTIES cSt	*Visual *Visual *Visual *Visual *Visual method	NONE NORML NORML >0.2 limit/base	NONE NORML NORML NEG NEG	NONE NORML NORML NEG NEG	NONE NORML NORML NEG
Appearance Odor Emulsified Wate Free Water FLUID PRC Visc @ 100°C GRAPHS Ferrous Alloy	scalar scalar scalar scalar scalar DPERTIES cSt	*Visual *Visual *Visual *Visual method	NORML NORML >0.2 limit/base	NORML NORML NEG NEG	NORML NORML NEG NEG	NORML NORML NEG
Odor Emulsified Wate Free Water FLUID PRO Visc @ 100°C GRAPHS Ferrous Alloy	scalar scalar scalar scalar DPERTIES cSt	*Visual *Visual *Visual method	NORML >0.2 limit/base	NORML NEG NEG	NORML NEG NEG	NORML NEG
Emulsified Wate Free Water FLUID PRO Visc @ 100°C GRAPHS Ferrous Alloy	er scalar scalar DPERTIES cSt	*Visual *Visual method	>0.2 limit/base	NEG NEG	NEG NEG	NEG
Free Water FLUID PRO Visc @ 100°C GRAPHS Ferrous Alloy ³⁰ ²⁵	scalar DPERTIES cSt	*Visual method	limit/base	NEG	NEG	
FLUID PRO Visc @ 100°C GRAPHS Ferrous Alloy	DPERTIES cSt	method				NEG
Visc @ 100°C GRAPHS Ferrous Alloy	cSt			current		HLG.
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Unique Number : 10911458 Diagnosed : 06 Mar 2024 - Jonathan Hester Test Package : FLEET Contact: GARY BREWER Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. gbrewerjr@gflenv.com * - 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)

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

Received

Tested

:04 Mar 2024

: 05 Mar 2024

Laboratory

Sample No. : GFL0101609

Lab Number : 06107961

GFL Environmental - 626 - Cadillac Hauling

1501 Ron Wilson St

Cadillac, MI

US 49601

T:

F: