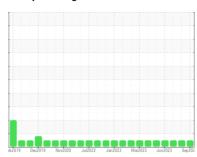


OIL ANALYSIS REPORT

Sample Rating Trend







726036-310024

Component

Diesel Engine

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.

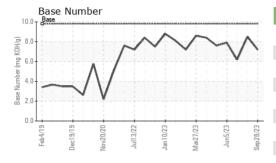
Fluid Condition

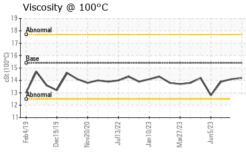
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

GAL) 10.2019 Nov2020 Jud2022 Jan2023 Mar2023 Jun2023 Sep201						
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number Sample Date		Client Info		GFL0090703 28 Sep 2023	GFL0087203 16 Aug 2023	GFL0087173 18 Jul 2023
Machine Age	hrs	Client Info		15495	15288	0
Oil Age	hrs	Client Info		600	0	600
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel			>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 D5185m	>110	18	17	50
Chromium	ppm	ASTM D5185m	>4	1	<1	2
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	3	5	7
Lead	ppm	ASTM D5185m	>45	<1	<1	0
Copper	ppm	ASTM D5185m	>85	0	<1	1
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current 5	history1	history2
	ppm	ASTM D5185m				
Boron		ASTM D5185m	0	5	0	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	5 0	0	<1 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	5 0 60	0 0 62	<1 <1 65
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	5 0 60 <1	0 0 62 <1	<1 <1 65 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	5 0 60 <1 976	0 0 62 <1 1000	<1 <1 65 <1 1052
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	5 0 60 <1 976 1110	0 0 62 <1 1000 1096	<1 <1 65 <1 1052 1177
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	5 0 60 <1 976 1110 1034	0 0 62 <1 1000 1096 1013	<1 <1 65 <1 1052 1177 1078
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	5 0 60 <1 976 1110 1034 1306	0 0 62 <1 1000 1096 1013 1248	<1 <1 65 <1 1052 1177 1078 1370
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	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	5 0 60 <1 976 1110 1034 1306 3009	0 0 62 <1 1000 1096 1013 1248 3509	<1 <1 65 <1 1052 1177 1078 1370 3470
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	5 0 60 <1 976 1110 1034 1306 3009	0 0 62 <1 1000 1096 1013 1248 3509	<1 <1 65 <1 1052 1177 1078 1370 3470 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	5 0 60 <1 976 1110 1034 1306 3009 current 6	0 0 62 <1 1000 1096 1013 1248 3509 history1	<1 <1 65 <1 1052 1177 1078 1370 3470 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	5 0 60 <1 976 1110 1034 1306 3009 current 6 7	0 0 62 <1 1000 1096 1013 1248 3509 history1	<1 <1 65 <1 1052 1177 1078 1370 3470 history2 10 10
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >30	5 0 60 <1 976 1110 1034 1306 3009 current 6 7	0 0 62 <1 1000 1096 1013 1248 3509 history1 11 7	<1 <1 65 <1 1052 1177 1078 1370 3470 history2 10 10 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >30	5 0 60 <1 976 1110 1034 1306 3009 current 6 7 2	0 0 62 <1 1000 1096 1013 1248 3509 history1 11 7 4	<1 <1 <1 65 <1 1052 1177 1078 1370 3470 history2 10 7 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >30 	5 0 60 <1 976 1110 1034 1306 3009 current 6 7 2 current	0 0 62 <1 1000 1096 1013 1248 3509 history1 11 7 4 history1 0.3	<1 <1 65 <1 1052 1177 1078 1370 3470 history2 10 7 history2 1.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m method *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1150 1270 2060 limit/base >30 >20 limit/base	5 0 60 <1 976 1110 1034 1306 3009 current 6 7 2 current 0.4 9.6	0 0 62 <1 1000 1096 1013 1248 3509 history1 11 7 4 history1 0.3 8.0	<1 <1 <1 65 <1 1052 1177 1078 1370 3470 history2 10 10 7 history2 1.1 12.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m method *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >30 >20 limit/base >3 >20 >3	5 0 60 <1 976 1110 1034 1306 3009 current 6 7 2 current 0.4 9.6 20.5	0 0 62 <1 1000 1096 1013 1248 3509 history1 11 7 4 history1 0.3 8.0 20.1	<1 <1 <1 65 <1 1052 1177 1078 1370 3470 history2 10 10 7 history2 1.1 12.8 25.7



OIL ANALYSIS REPORT

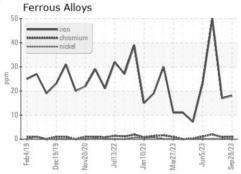


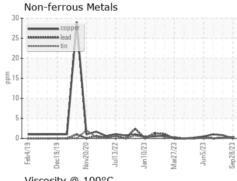


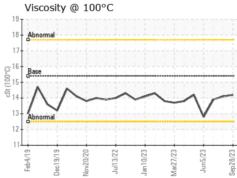
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

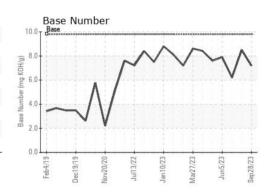
FLUID PROPE	RTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.1	13.9

GRAPHS













Certificate L2367

Laboratory

Sample No. Lab Number Unique Number : 10673971 Test Package : FLEET

: GFL0090703 : 05967420

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 03 Oct 2023 Diagnosed : 04 Oct 2023

Diagnostician : Wes Davis

GFL Environmental - 836 - Kansas City Hauling

7801 East Truman Road Kansas City, MO US 64126

Contact: Robert Hart rhart@gflenv.com T: (580)461-1509

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)