

OIL ANALYSIS REPORT

Sample Rating Trend





Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (--- LTR)

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.

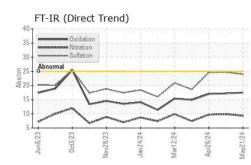
Fluid Condition

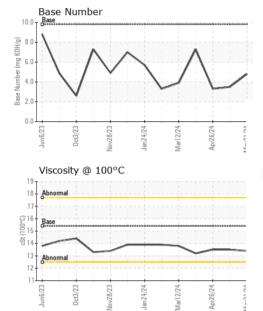
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0118083	GFL0118092	GFL0118041
Sample Date		Client Info		21 May 2024	17 May 2024	26 Apr 2024
Machine Age	hrs	Client Info		2270	2229	2061
Oil Age	hrs	Client Info		480	439	271
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
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	>90	30	31	29
Chromium	ppm	ASTM D5185m	>20	3	2	2
Nickel	ppm	ASTM D5185m	>2	2	- <1	_ <1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	11	9	9
Lead	ppm	ASTM D5185m	>40	3	3	2
Copper	ppm	ASTM D5185m	>330	3	2	3
Tin	ppm	ASTM D5185m	>15	2	<1	1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		<1	0	0
	ppin	AO INI DOTODITI		<1	0	0
ADDITIVES	ppm	method	limit/base	current	history1	history2
ADDITIVES Boron			limit/base	current	-	-
	ppm	method			history1	history2
Boron Barium		method ASTM D5185m	0	current 3	history1 0	history2 <1
Boron	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0	current 3 0	history1 0 0	history2 <1 0
Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 3 0 74	history1 0 0 73	history2 <1 0 72
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 3 0 74 2	history1 0 0 73 <1	history2 <1 0 72 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 3 0 74 2 990	history1 0 0 73 <1 1076	history2 <1 0 72 1 1059
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 3 0 74 2 990 1205	history1 0 0 73 <1 1076 1270	history2 <1 0 72 1 1059 1257
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 3 0 74 2 990 1205 999	history1 0 73 <1 1076 1270 1081	history2 <1 0 72 1 1059 1257 1072
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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 3 0 74 2 990 1205 999 1300	history1 0 73 <1 1076 1270 1081 1411	history2 <1 0 72 1 1059 1257 1072 1384
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 3 0 74 2 990 1205 999 1300 2941	history1 0 73 <1 1076 1270 1081 1411 3311	<1 0 72 1 1059 1257 1072 1384 3361
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 60 1010 1070 1150 1270 2060	current 3 0 74 2 990 1205 999 1300 2941 current	history1 0 73 <1 1076 1270 1081 1411 3311 history1	<1 0 72 1 1059 1257 1072 1384 3361 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 3 0 74 2 990 1205 999 1300 2941 current 10	history1 0 0 73 <1 1076 1270 1081 1411 3311 history1 8	<1 0 72 1 1059 1257 1072 1384 3361 history2 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 3 0 74 2 990 1205 999 1300 2941 current 10 8	history1 0 0 73 <1 1076 1270 1081 1411 3311 history1 8 6	<1 0 72 1 1059 1257 1072 1384 3361 history2 8 8 8 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	Current 3 0 74 2 990 1205 999 1300 2941 current 10 8 12	history1 0 0 73 <1 1076 1270 1081 1411 3311 history1 8 6 8 6 8	<1 0 72 1 1059 1257 1072 1384 3361 history2 8 8 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 20	current 3 0 74 2 990 1205 999 1300 2941 current 10 8 12 current 12 current	history1 0 0 73 <1 1076 1270 1081 1411 3311 history1 8 6 8 6 8 history1	<1 0 72 1 1059 1257 1072 1384 3361 history2 8 7 7 history2
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 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 3 0 74 2 990 1205 999 1300 2941 current 10 8 12 current 0.1	history1 0 0 73 <1 1076 1270 1081 1411 3311 history1 8 6 8 history1 0.1	history2 <1 0 72 1 1059 1257 1072 1384 3361 history2 8 7 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	Current 3 0 74 2 990 1205 999 1300 2941 current 10 8 12 current 0.1 9.3	history1 0 0 73 <1 1076 1270 1081 1411 3311 history1 8 6 8 6 8 0.1 9.9	history2 <1 0 72 1 1059 1257 1072 1384 3361 history2 8 8 7 history2 0 9.7
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 <u>imit/base</u> >6 >20 20	Current 3 0 74 2 990 1205 999 1300 2941 current 10 8 12 current 0.1 9.3 24.0	history1 0 0 73 <1 1076 1270 1081 1411 3311 history1 8 6 8 history1 0.1 9.9 24.7	<1 0 72 1 1059 1257 1072 1384 3361 history2 8 7 history2 0 9.7 24.6

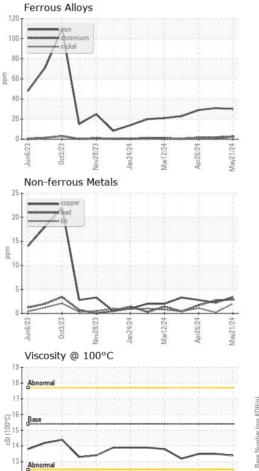


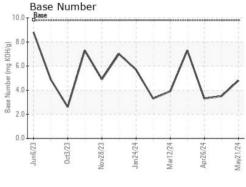
OIL ANALYSIS REPORT





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	LIGHT
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	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.5	13.5
GRAPHS						





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 010 - Stockbridge Sample No. : GFL0118083 Received : 22 May 2024 1280 Rum Creek Parkway Lab Number : 06187396 Tested : 23 May 2024 Stockbridge, GA Unique Number : 11044148 Diagnosed : 24 May 2024 - Don Baldridge US 30281 Test Package : FLEET Contact: TECHNICIAN ACCOUNT Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. wcgfldemo@gmail.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Jan24/24

Mar12/24

Apr26/24

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May21/24.

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