

OIL ANALYSIS REPORT





Area (P633832) 3764C Component Natural Gas Engine Fluid PETRO CANADA DURON GEO LD 15W40 (40 QTS)

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.

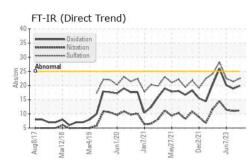
Fluid Condition

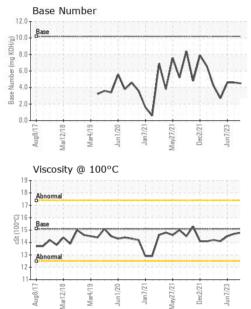
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0117970	GFL0117967	GFL0070786
Sample Date		Client Info		09 May 2024	24 Apr 2024	07 Jun 2023
Machine Age	hrs	Client Info		14617	13900	13325
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	42	40	29
Chromium	ppm	ASTM D5185m	>4	7	<u> </u>	6
Nickel	ppm	ASTM D5185m	>2	1	0	2
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	9	8	6
Lead	ppm	ASTM D5185m	>30	2	2	<1
Copper	ppm	ASTM D5185m	>35	19	15	28
Tin	ppm	ASTM D5185m	>4	<1	0	1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method				history2
ADDITIVES		method	iiiiii/base	Current	Thistory I	THSTOLYZ
Boron	ppm	ASTM D5185m	50	7	5	6
	ppm ppm					
Boron		ASTM D5185m	50	7	5	6
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5	7 2	5 0	6 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	7 2 58	5 0 50	6 0 52
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	7 2 58 2	5 0 50 1	6 0 52 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	7 2 58 2 544	5 0 50 1 569	6 0 52 1 594
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	7 2 58 2 544 1585	5 0 50 1 569 1635	6 0 52 1 594 1663
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	50 5 50 0 560 1510 780	7 2 58 2 544 1585 736	5 0 50 1 569 1635 764	6 0 52 1 594 1663 749
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	50 5 50 0 560 1510 780 870	7 2 58 2 544 1585 736 905	5 0 50 1 569 1635 764 957	6 0 52 1 594 1663 749 1002
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	50 50 50 560 1510 780 870 2040 >+100	7 2 58 2 544 1585 736 905 2286	5 0 50 1 569 1635 764 957 2666 history1 8	6 0 52 1 594 1663 749 1002 2790
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 50 50 560 1510 780 870 2040 >+100	7 2 58 2 544 1585 736 905 2286 current	5 0 50 1 569 1635 764 957 2666 history1	6 0 52 1 594 1663 749 1002 2790 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	7 2 58 2 544 1585 736 905 2286 2286 current	5 0 50 1 569 1635 764 957 2666 history1 8	6 0 52 1 594 1663 749 1002 2790 history2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	7 2 58 2 544 1585 736 905 2286 2286 current 11 5	5 0 50 1 569 1635 764 957 2666 history1 8 6	6 0 52 1 594 1663 749 1002 2790 history2 6 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 >+100 >20	7 2 58 2 544 1585 736 905 2286 2286 current 11 5 4	5 0 50 1 569 1635 764 957 2666 history1 8 6 2	6 0 52 1 594 1663 749 1002 2790 history2 6 8 8 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 2040 >+100 >+100 >20 Jimit/base	7 2 58 2 544 1585 736 905 2286 current 11 5 4 4	5 0 50 1 569 1635 764 957 2666 history1 8 6 2 2 history1	6 0 52 1 594 1663 749 1002 2790 history2 6 8 5 5 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 TS ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 2040 >+100 >+100 >20 Jimit/base	7 2 58 2 544 1585 736 905 2286 current 11 5 4 current 0	5 0 50 1 569 1635 764 957 2666 history1 8 6 2 2 history1 0	6 0 52 1 594 1663 749 1002 2790 history2 6 8 5 5 history2 0.1
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	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 2040 >+100 >20 imit/base >20	7 2 58 2 544 1585 736 905 2286 <i>current</i> 11 5 4 <i>current</i> 0 11.2	5 0 50 1 569 1635 764 957 2666 history1 8 6 2 2 history1 0 11.0	6 0 52 1 594 1663 749 1002 2790 history2 6 8 5 5 history2 0.1 11.4
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	ASTM D5185m ASTM D5185m	50 50 560 1510 780 870 2040 imit/base >+100 imit/base >20 30 imit/base	7 2 58 2 544 1585 736 905 2286 current 11 5 4 current 0 11.2 22.5	5 0 50 1 569 1635 764 957 2666 history1 8 6 2 2 history1 0 11.0 21.4	6 0 52 1 594 1663 749 1002 2790 history2 6 8 5 5 history2 0.1 11.4 22.5



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	>0.1	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	15.1	14.8	14.7	14.5
GRAPHS						

Ferrous Alloys

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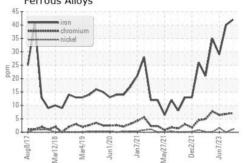
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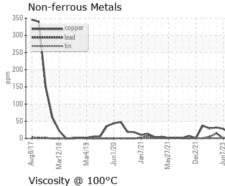
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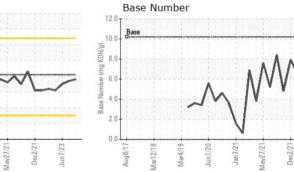
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Aug8/17

Mar12/18







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 030 - Conway Myrtle Beach Sample No. : GFL0117970 Received : 10 May 2024 3010 HWY 378 Lab Number : 06176510 Tested : 13 May 2024 Conway, SC US 29527 Unique Number : 11022563 Diagnosed : 14 May 2024 - Sean Felton Test Package : FLEET Contact: ARCILIO RUEZ Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. aruiz@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Mar4/19

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Submitted By: TECHNICIAN ACCOUNT

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