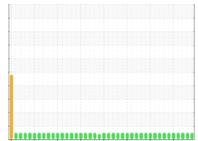


OIL ANALYSIS REPORT

Sample Rating Trend









(YA113967) 3444C

Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (29 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

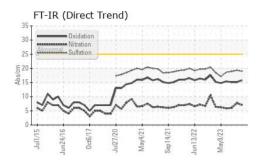
Fluid Condition

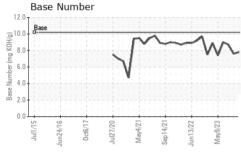
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

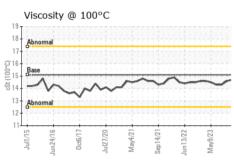
Sample Number Client Info GFL0125786 GFL0079630 GFL0098138 Sample Date Client Info 02 Jul 2024 05 Jun 2024 17 Jan 2024 Machine Age hrs Client Info 15510 15510 15510 Oil Age hrs Client Info 120 630 443 Oil Changed Client Info N/A N/A Changed Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG	GEO LD 15W40 (2	.9 Q10)	12013 001120	10 002017 002020	mayever somewer in	1892.02.3	
Sample Date Client Info 02 Jul 2024 05 Jun 2024 17 Jan 2024 Machine Age hrs Client Info 15510 15510 15510 15510 15510 Oil Age hrs Client Info 120 630 443 Available Available Normal N	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs	Sample Number		Client Info		GFL0125786	GFL0079630	GFL0098138
Dil Age	Sample Date		Client Info		02 Jul 2024	05 Jun 2024	17 Jan 2024
Client Info N/A N/A N/A Changed Sample Status NORMAL NORMAL	Machine Age	hrs	Client Info		15510	15510	15510
NORMAL NORMAL NORMAL NORMAL NORMAL	Oil Age	hrs	Client Info		120	630	443
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 5 9 3 Chromium ppm ASTM D5185m >4 <1 <1 0 Olickel ppm ASTM D5185m >2 <1 <1 0 0 Alluminum ppm ASTM D5185m >3 <1 0 0 0 Alluminum ppm ASTM D5185m >3 <1 <1 0 0 Alluminum ppm ASTM D5185m >3 <1 <1 0 0 Capper ppm ASTM D5185m >35 <1 <1 <1 0 Capper ppm ASTM D5185m >4 <1 <1 <1 <1 Capper	Oil Changed		Client Info		N/A	N/A	Changed
Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 5 9 3 Chromium ppm ASTM D5185m >4 <1 <1 0 Nickel ppm ASTM D5185m >2 <1 <1 0 Silver ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >9 4 4 <1 0 Aluminum ppm ASTM D5185m >9 4 4 <1 0 Lead ppm ASTM D5185m >9 4 4 <1 0 Copper ppm ASTM D5185m >35 <1 <1 0 0 Copper ppm ASTM D5185m >4 <1 0 0 0 ADDITIVES method I	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 5 9 3 Chromium ppm ASTM D5185m >4 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
Chromium	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
ASTM D5185m >2	ron	ppm	ASTM D5185m	>50	5	9	3
Nicke ppm ASTM D5185m >2 <1 <1 0	Chromium	ppm	ASTM D5185m	>4	<1	<1	0
STIM D5185m	Nickel		ASTM D5185m	>2	<1	<1	0
Silver	Titanium		ASTM D5185m		<1	<1	0
Aluminum	Silver			>3			
Lead							
Copper ppm ASTM D5185m >35 <1 <1 <1 <1 <1 Classing <1 <1 <1 <1 <1 <1 <1 <0 <1 <0 <0 <1 <0 <0 <0 <1 <0 <0 <0 <1 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0 <0							
Tin							
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 31 31 46 Barium ppm ASTM D5185m 5 <1 2 0 Molybdenum ppm ASTM D5185m 50 48 59 46 Manganese ppm ASTM D5185m 50 48 59 46 Manganesium ppm ASTM D5185m 50 48 59 46 Manganesium ppm ASTM D5185m 560 538 588 580 Calcium ppm ASTM D5185m 780 731 796 815 Zinc ppm ASTM D5185m 780 731 796 815 CONTAMINANTS method limit/base current history1 hi							
ADDITIVES				7			
ADDITIVES							
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 48 59 46 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 560 538 588 580 Calcium ppm ASTM D5185m 1510 1462 1537 1564 Phosphorus ppm ASTM D5185m 780 731 796 815 Zinc ppm ASTM D5185m 870 904 977 940 Sulfur ppm ASTM D5185m 2040 2193 2739 2736 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m 3 <1 4 Potassium ppm ASTM D5185m >20 3 9 12 INFRA-RED method limit/base current	Boron	ppm	ASTM D5185m	50	31	31	46
Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 560 538 588 580 Calcium ppm ASTM D5185m 1510 1462 1537 1564 Phosphorus ppm ASTM D5185m 780 731 796 815 Zinc ppm ASTM D5185m 870 904 977 940 Sulfur ppm ASTM D5185m 2040 2193 2739 2736 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m >20 3 9 12 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/cm *ASTM D7815 >30	Barium	ppm	ASTM D5185m	5	<1	2	0
Magnesium ppm ASTM D5185m 560 538 588 580 Calcium ppm ASTM D5185m 1510 1462 1537 1564 Phosphorus ppm ASTM D5185m 780 731 796 815 Zinc ppm ASTM D5185m 870 904 977 940 Sulfur ppm ASTM D5185m 2040 2193 2739 2736 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m >20 3 9 12 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION *ASTM D7414 >25 1	Molybdenum	ppm	ASTM D5185m	50	48	59	46
Magnesium ppm ASTM D5185m 560 538 588 580 Calcium ppm ASTM D5185m 1510 1462 1537 1564 Phosphorus ppm ASTM D5185m 780 731 796 815 Zinc ppm ASTM D5185m 870 904 977 940 Sulfur ppm ASTM D5185m 2040 2193 2739 2736 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m >20 3 9 12 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/cm *ASTM D7624 >20 7.1 7.7 6.0 Sulfation Abs/.1mm *ASTM D7414 >25	Manganese	ppm	ASTM D5185m	0	<1	<1	0
Calcium ppm ASTM D5185m 1510 1462 1537 1564 Phosphorus ppm ASTM D5185m 780 731 796 815 Zinc ppm ASTM D5185m 870 904 977 940 Sulfur ppm ASTM D5185m 2040 2193 2739 2736 CONTAMINANTS method limit/base current history1 history2 Soliicon ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m >20 3 9 12 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/:nm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION <td>-</td> <td>ppm</td> <td>ASTM D5185m</td> <td>560</td> <th>538</th> <td>588</td> <td>580</td>	-	ppm	ASTM D5185m	560	538	588	580
Phosphorus ppm ASTM D5185m 780 731 796 815 Zinc ppm ASTM D5185m 870 904 977 940 Sulfur ppm ASTM D5185m 2040 2193 2739 2736 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m 3 <1	Calcium		ASTM D5185m	1510	1462	1537	1564
Zinc ppm ASTM D5185m 870 904 977 940 Sulfur ppm ASTM D5185m 2040 2193 2739 2736 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m 3 <1	Phosphorus		ASTM D5185m	780	731		815
Sulfur ppm ASTM D5185m 2040 2193 2739 2736 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m 3 <1 4 Potassium ppm ASTM D5185m >20 3 9 12 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/cm *ASTM D7624 >20 7.1 7.7 6.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1	•		ASTM D5185m	870		977	940
Silicon ppm ASTM D5185m >+100 4 7 15 Sodium ppm ASTM D5185m 3 <1 4 Potassium ppm ASTM D5185m >20 3 9 12 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/cm *ASTM D7624 >20 7.1 7.7 6.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1							
Sodium ppm ASTM D5185m 3 <1 4 Potassium ppm ASTM D5185m >20 3 9 12 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/cm *ASTM D7624 >20 7.1 7.7 6.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 9 12 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/cm *ASTM D7624 >20 7.1 7.7 6.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1	Silicon	ppm	ASTM D5185m	>+100	4	7	15
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/cm *ASTM D7624 >20 7.1 7.7 6.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1	Sodium	ppm	ASTM D5185m		3	<1	4
Soot % % *ASTM D7844 0 0.3 0 Nitration Abs/cm *ASTM D7624 >20 7.1 7.7 6.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1	Potassium	ppm	ASTM D5185m	>20	3	9	12
Nitration Abs/cm *ASTM D7624 >20 7.1 7.7 6.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 7.1 7.7 6.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1	Soot %	%	*ASTM D7844		0	0.3	0
Sulfation Abs/.1mm *ASTM D7415 >30 19.0 19.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1				>20			
Oxidation Abs/.1mm *ASTM D7414 >25 15.8 15.1 15.1							
	FLUID DEGRA	OITAC	method				history2



OIL ANALYSIS REPORT



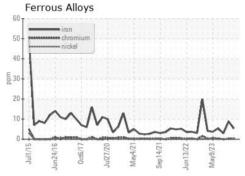


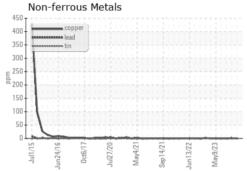


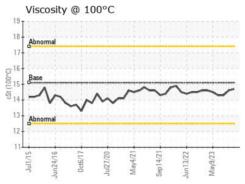
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

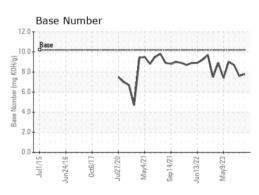
FLUID PROP	ERITES	method	ilmit/base		nistory i	nistoryz
Visc @ 100°C	cSt	ASTM D445	15.1	14.7	14.6	14.3

GRAPHS













Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. Lab Number : 06225808

: GFL0125786 Unique Number : 11109301

Received : 02 Jul 2024 **Tested** : 03 Jul 2024 Diagnosed

: 03 Jul 2024 - Wes Davis

GFL Environmental - 017 - Durham

148 Stone Park Court Durham, NC

bill.waring@wearcheck.com

US 27703 Contact:

T: (919)596-1363

F: (919)598-1852

Test Package : FLEET Certificate 12367 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)

Report Id: GFL017 [WUSCAR] 06225808 (Generated: 07/03/2024 05:07:06) Rev: 1

Submitted By: Ren - William Russel