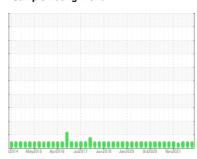


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id 3572C Component

Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (42 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

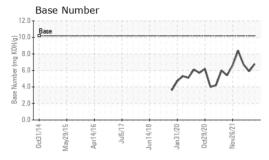
Fluid Condition

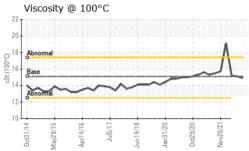
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Client Info GFL0087132 GFL0052543 GFL0048 Sample Date Client Info 18 Jul 2023 21 Jun 2022 17 May 2 Machine Age hrs Client Info 0 555 289 Oil Age hrs Client Info 0 555 289 Oil Age Client Info N/A Changed Not Chair Sample Status NORMAL NORMA	42 QTS)	2014 May2015 Auc2016 Jul2017 Jul2016 Jul2020 Oct2020 Nov2021						
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2	
Machine Age hrs Client Info 4187 566 299 Oil Age hrs Client Info 0 555 289 Oil Changed Client Info N/A Changed Not Changed Sample Status NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 9 12 12 Chromium ppm ASTM D5185m >4 <1	Sample Number		Client Info		GFL0087132	GFL0052543	GFL0048528	
Oii Age	Sample Date		Client Info		18 Jul 2023	21 Jun 2022	17 May 2022	
Oil Changed Sample Status Client Info N/A NORMAL Changed NORMAL NORMAL Not Changed NORMAL Norm Male Nor	Machine Age	hrs	Client Info		4187	566	299	
NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 hi	Oil Age	hrs	Client Info		0	555	289	
WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 9 12 12 Chromium ppm ASTM D5185m >4 <1	Oil Changed		Client Info		N/A	Changed	Not Changd	
Iron	Sample Status				NORMAL	NORMAL	NORMAL	
Chromium ppm ASTM D5185m >4 <1 2 2 Nickel ppm ASTM D5185m >2 <1	WEAR METALS	S	method	limit/base	current	history1	history2	
Nickel	Iron	ppm	ASTM D5185m	>50	9	12	12	
Titanium	Chromium	ppm	ASTM D5185m	>4	<1	2	2	
Silver	Nickel	ppm	ASTM D5185m	>2	<1	<1	<1	
Aluminum	Titanium	ppm	ASTM D5185m		0	0	<1	
Lead ppm ASTM D5185m >30 <1 0 <1 Copper ppm ASTM D5185m >35 <1 <1 <1 Tin ppm ASTM D5185m >4 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 50 15 13 21 Boron ppm ASTM D5185m 50 15 13 21 Boron ppm ASTM D5185m 50 15 13 21 Boron ppm ASTM D5185m 50 52 54 51 Manganesium ppm ASTM D5185m 50 52 54 51 Magnesium ppm ASTM D5185m 1510 1574 1662<	Silver	ppm	ASTM D5185m	>3	0	<1	0	
Copper ppm ASTM D5185m >35 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Aluminum	ppm	ASTM D5185m	>9	3	2	2	
Tin ppm ASTM D5185m >4 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 50 15 13 21 Barium ppm ASTM D5185m 50 0 0 0 Molybdenum ppm ASTM D5185m 50 52 54 51 Manganese ppm ASTM D5185m 50 52 54 51 Manganesium ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 560 536 566 593 Calcium ppm ASTM D5185m 1510 1574 1662 1614 Phosphorus ppm ASTM D5185m 780 </td <td>Lead</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>30</td> <td><1</td> <td>0</td> <td><1</td>	Lead	ppm	ASTM D5185m	>30	<1	0	<1	
Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 50 15 13 21 Barium ppm ASTM D5185m 50 0 0 0 Molybdenum ppm ASTM D5185m 50 52 54 51 Manganese ppm ASTM D5185m 50 52 54 51 Magnesium ppm ASTM D5185m 560 536 566 593 Calcium ppm ASTM D5185m 750 758 717 791 Phosphorus ppm ASTM D5185m 780 758 717 791 Zinc ppm ASTM D5185m 2040 2510 2317 2168 CONTAMINANTS method limit/base current	Copper	ppm	ASTM D5185m	>35	<1	<1	<1	
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 50 15 13 21 Barium ppm ASTM D5185m 50 0 0 0 Molybdenum ppm ASTM D5185m 50 52 54 51 Manganese ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>4	<1	<1	<1	
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0	
Boron	Cadmium	ppm	ASTM D5185m		0	0	0	
Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 50 52 54 51 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum ppm ASTM D5185m 50 52 54 51 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 560 536 566 593 Calcium ppm ASTM D5185m 1510 1574 1662 1614 Phosphorus ppm ASTM D5185m 780 758 717 791 Zinc ppm ASTM D5185m 870 961 947 931 Sulfur ppm ASTM D5185m 2040 2510 2317 2168 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >+100 7 6 7 Sodium ppm ASTM D5185m 20 <1 0 0 INFRA-RED method limit/base current history1 history1 Soot % % ASTM D7844 0.1 <t< td=""><td>Boron</td><td>ppm</td><td>ASTM D5185m</td><td>50</td><td>15</td><td>13</td><td>21</td></t<>	Boron	ppm	ASTM D5185m	50	15	13	21	
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 560 536 566 593 Calcium ppm ASTM D5185m 1510 1574 1662 1614 Phosphorus ppm ASTM D5185m 780 758 717 791 Zinc ppm ASTM D5185m 870 961 947 931 Sulfur ppm ASTM D5185m 2040 2510 2317 2168 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >+100 7 6 7 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	5	0	0	0	
Magnesium ppm ASTM D5185m 560 536 566 593 Calcium ppm ASTM D5185m 1510 1574 1662 1614 Phosphorus ppm ASTM D5185m 780 758 717 791 Zinc ppm ASTM D5185m 870 961 947 931 Sulfur ppm ASTM D5185m 2040 2510 2317 2168 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >+100 7 6 7 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	50	52	54	51	
Calcium ppm ASTM D5185m 1510 1574 1662 1614 Phosphorus ppm ASTM D5185m 780 758 717 791 Zinc ppm ASTM D5185m 870 961 947 931 Sulfur ppm ASTM D5185m 2040 2510 2317 2168 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >+100 7 6 7 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m	0	<1	<1	<1	
Phosphorus ppm ASTM D5185m 780 758 717 791 Zinc ppm ASTM D5185m 870 961 947 931 Sulfur ppm ASTM D5185m 2040 2510 2317 2168 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >+100 7 6 7 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m	560	536	566	593	
Zinc ppm ASTM D5185m 870 961 947 931 Sulfur ppm ASTM D5185m 2040 2510 2317 2168 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >+100 7 6 7 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m	1510	1574	1662	1614	
Sulfur ppm ASTM D5185m 2040 2510 2317 2168 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >+100 7 6 7 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m	780	758	717	791	
CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >+100 7 6 7 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m	870	961	947	931	
Silicon ppm ASTM D5185m >+100 7 6 7 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 <1 0 0 INFRA-RED method limit/base current history1 history1 history1 Soot % % *ASTM D7844 0.1 0 0.1 Nitration Abs/cm *ASTM D7624 >20 9.3 10.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 21.3 19.3 FLUID DEGRADATION method limit/base current history1 history1	Sulfur	ppm	ASTM D5185m	2040	2510	2317	2168	
Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 <1	CONTAMINAN	TS	method	limit/base	current	history1	history2	
Potassium ppm ASTM D5185m >20 <1 0 0 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 0.1 0 0.1 Nitration Abs/cm *ASTM D7624 >20 9.3 10.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 21.3 19.3 FLUID DEGRADATION method limit/base current history1 history1	Silicon	ppm	ASTM D5185m	>+100	7	6	7	
INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 0.1 0 0.1 Nitration Abs/cm *ASTM D7624 >20 9.3 10.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 21.3 19.3 FLUID DEGRADATION method limit/base current history1 history1	Sodium	ppm	ASTM D5185m		2	7	8	
Soot % % *ASTM D7844 0.1 0 0.1 Nitration Abs/cm *ASTM D7624 >20 9.3 10.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 21.3 19.3 FLUID DEGRADATION method limit/base current history1 history1 history1	Potassium	ppm	ASTM D5185m	>20	<1	0	0	
Nitration Abs/cm *ASTM D7624 >20 9.3 10.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 19.7 21.3 19.3 FLUID DEGRADATION method limit/base current history1 history1	INFRA-RED		method	limit/base	current	history1	history2	
Sulfation Abs/.1mm *ASTM D7415 >30 19.7 21.3 19.3 FLUID DEGRADATION method limit/base current history1 history1	Soot %	%	*ASTM D7844		0.1	0	0.1	
FLUID DEGRADATION method limit/base current history1 history1	Nitration	Abs/cm	*ASTM D7624	>20	9.3	10.8	9.3	
·	Sulfation	Abs/.1mm	*ASTM D7415	>30	19.7	21.3	19.3	
Oxidation Abs/.1mm *ASTM D7414 >25 16.8 18.5 16.3	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2	
	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.8	18.5	16.3	
Base Number (BN) mg KOH/g ASTM D2896 10.2 6.8 5.9 6.7	Base Number (BN)	mg KOH/g	ASTM D2896	10.2	6.8	5.9	6.7	



OIL ANALYSIS REPORT

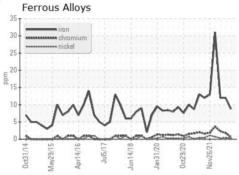


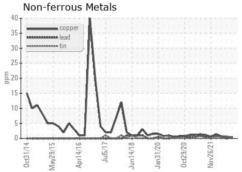


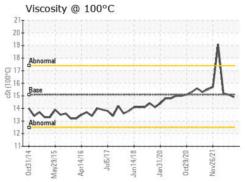
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

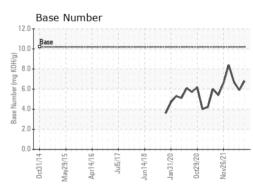
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	15.1	14.9	15.1	15.2	

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0087132 : 05902742 : 10564098

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Received Diagnosed

: 19 Jul 2023 : 20 Jul 2023 Diagnostician : Wes Davis

GFL Environmental - 001 - Raleigh(CNG)

3741 Conquest Drive Garner, NC US 27529

Contact: Craig Johnson craig.johnson@gflenv.com

T: (919)662-7100 F: (919)662-7130

* - 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)