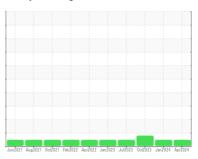


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



744000

Natural Gas Engine

Fluid

PETRO CANADA DURON GEO LD 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.

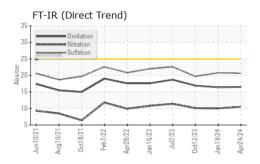
Fluid Condition

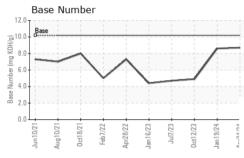
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

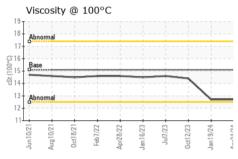
Sample Number Client Info GFL0115513 GFL0106995 GFL009425.	(LTR) Junitive 1. Aug/2021 Octdoo: Feb.doo:2. April022 Junitive 3. Octdoo:3. Junitive 3. April024 April024						
Sample Date Client Info 24 Apr 2024 19 Jan 2024 12 Oct 2023 Machine Age hrs Client Info 25737 25241 24593 25737 25241 24593 24593 25737 25241 24593 24593 25737 25241 24593 2459	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 25737 25241 24593 Oil Age hrs Client Info 25737 648 660 Oil Changed Client Info Not Changed N/A AbnorMAL Sample Status Image: Control of the contr	Sample Number		Client Info		GFL0115513	GFL0106995	GFL0094253
Machine Age hrs Client Info 25737 25241 24593 Oil Age hrs Client Info 25737 648 660 Oil Changed Client Info Not Changed N/A AbnorMAL Sample Status Image: Control of the contr	Sample Date		Client Info		24 Apr 2024	19 Jan 2024	12 Oct 2023
Oil Age hrs Client Info 25737 648 660 Oil Changed Sample Status Client Info Not Changd N/A N/A Changed Changed N/A CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185n >50 21 23 10 Chromium ppm ASTM D5185n >50 21 23 10 Chromium ppm ASTM D5185n >2 0 <1 <1 Riliver ppm ASTM D5185n >3 0 <1 <1 2 Lead ppm ASTM D5185n >30 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <td>•</td> <td>hrs</td> <td>Client Info</td> <td></td> <th>-</th> <td>25241</td> <td>24593</td>	•	hrs	Client Info		-	25241	24593
Oil Changed Client Info Not Changed NORMAL NORMAL ABNORMAL ABNO	•	hrs	Client Info		25737	648	660
NORMAL NORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 history2	-		Client Info		Not Changd	N/A	Changed
Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 21 23 10 Chromium ppm ASTM D5185m >0 <1 <1 Nickel ppm ASTM D5185m >2 0 <1 <1 Titanium ppm ASTM D5185m >3 0 0 0 Alluminum ppm ASTM D5185m >9 1 1 2 Lead ppm ASTM D5185m >9 1 1 2 Copper ppm ASTM D5185m 0 0 0 0 Cadmiu	-						ABNORMAL
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium ppm ASTM D5185m >4 0 <1 1 Nickel ppm ASTM D5185m >2 0 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	21	23	10
Silver	Chromium	ppm	ASTM D5185m	>4	0	<1	1
Silver	Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum ppm ASTM D5185m >9 1 1 2 Lead ppm ASTM D5185m >30 <1 <1 0 Copper ppm ASTM D5185m >35 <1 <1 △ 104 Tin ppm ASTM D5185m >4 <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	Titanium	ppm	ASTM D5185m		0	<1	<1
Lead ppm ASTM D5185m >30 <1 <1 0 Copper ppm ASTM D5185m >35 <1 <1 △ 104 Tin ppm ASTM D5185m >4 <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 <td>Silver</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>3</td> <th>0</th> <td>0</td> <td>0</td>	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >35 <1 <1 104 Tin ppm ASTM D5185m >4 <1	Aluminum	ppm	ASTM D5185m	>9	1	1	2
Tin	Lead	ppm	ASTM D5185m	>30	<1	<1	0
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 1 2 9 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 50 61 61 48 Manganese ppm ASTM D5185m 50 61 61 48 Manganesium ppm ASTM D5185m 50 895 869 503 Calcium ppm ASTM D5185m 1510 1130 1065 1352 Phosphorus ppm ASTM D5185m 780 1026 980 676 Zinc ppm ASTM D5185m 870 1240 1197 838 Sulfur ppm ASTM D5185m 2040 3511 3114	Copper	ppm	ASTM D5185m	>35	<1	<1	<u></u> 104
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 1 2 9 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 50 61 61 48 Manganese ppm ASTM D5185m 50 61 61 48 Manganesium ppm ASTM D5185m 560 895 869 503 Calcium ppm ASTM D5185m 1510 1130 1065 1352 Phosphorus ppm ASTM D5185m 780 1026 980 676 Zinc ppm ASTM D5185m 870 1240 1197 838 Sulfur ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m >+100 3	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 61 61 48 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 560 895 869 503 Calcium ppm ASTM D5185m 1510 1130 1065 1352 Phosphorus ppm ASTM D5185m 780 1026 980 676 Zinc ppm ASTM D5185m 870 1240 1197 838 Sulfur ppm ASTM D5185m 2040 3511 3114 2082 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m 19 12 6 Potassium ppm ASTM D5185m 20	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 61 61 48 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 560 895 869 503 Calcium ppm ASTM D5185m 560 895 869 503 Calcium ppm ASTM D5185m 1510 1130 1065 1352 Phosphorus ppm ASTM D5185m 780 1026 980 676 Zinc ppm ASTM D5185m 870 1240 1197 838 Sulfur ppm ASTM D5185m 2040 3511 3114 2082 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base	Boron	ppm	ASTM D5185m	50	1	2	9
Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 560 895 869 503 Calcium ppm ASTM D5185m 1510 1130 1065 1352 Phosphorus ppm ASTM D5185m 780 1026 980 676 Zinc ppm ASTM D5185m 870 1240 1197 838 Sulfur ppm ASTM D5185m 2040 3511 3114 2082 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m >+100 3 3 3 Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624	Barium	ppm	ASTM D5185m	5	0	0	0
Magnesium ppm ASTM D5185m 560 895 869 503 Calcium ppm ASTM D5185m 1510 1130 1065 1352 Phosphorus ppm ASTM D5185m 780 1026 980 676 Zinc ppm ASTM D5185m 870 1240 1197 838 Sulfur ppm ASTM D5185m 2040 3511 3114 2082 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m 19 12 6 Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415	Molybdenum	ppm	ASTM D5185m	50	61	61	48
Calcium ppm ASTM D5185m 1510 1130 1065 1352 Phosphorus ppm ASTM D5185m 780 1026 980 676 Zinc ppm ASTM D5185m 870 1240 1197 838 Sulfur ppm ASTM D5185m 2040 3511 3114 2082 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m 19 12 6 Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 1.4 1.5 0 Nitration Abs/cm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION *ASTM D7414 >25	Manganese	ppm	ASTM D5185m	0	<1	<1	0
Phosphorus ppm ASTM D5185m 780 1026 980 676 Zinc ppm ASTM D5185m 870 1240 1197 838 Sulfur ppm ASTM D5185m 2040 3511 3114 2082 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m >+100 3 19 12 6 Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 1.4 1.5 0 Nitration Abs/cm *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION me	Magnesium	ppm	ASTM D5185m	560	895	869	503
Zinc ppm ASTM D5185m 870 1240 1197 838 Sulfur ppm ASTM D5185m 2040 3511 3114 2082 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m 19 12 6 Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 1.4 1.5 0 Nitration Abs/cm *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25	Calcium	ppm	ASTM D5185m	1510	1130	1065	1352
Sulfur ppm ASTM D5185m 2040 3511 3114 2082 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m 19 12 6 Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 1.4 1.5 0 Nitration Abs/cm *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	Phosphorus	ppm	ASTM D5185m	780	1026	980	676
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m 19 12 6 Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 1.4 1.5 0 Nitration Abs/cm *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	Zinc	ppm	ASTM D5185m	870	1240	1197	838
Silicon ppm ASTM D5185m >+100 3 3 3 Sodium ppm ASTM D5185m 19 12 6 Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 1.4 1.5 0 Nitration Abs/cm *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	Sulfur	ppm	ASTM D5185m	2040	3511	3114	2082
Sodium ppm ASTM D5185m 19 12 6 Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 1.4 1.5 0 Nitration Abs/cm *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 8 10 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 1.4 1.5 0 Nitration Abs/cm *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	Silicon	ppm	ASTM D5185m	>+100	3	3	3
INFRA-RED	Sodium	ppm	ASTM D5185m		19	12	6
Soot % % *ASTM D7844 1.4 1.5 0 Nitration Abs/cm *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	Potassium	ppm	ASTM D5185m	>20	8	10	3
Nitration Abs/cm *ASTM D7624 >20 10.5 10.0 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.8 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	Soot %	%	*ASTM D7844		1.4	1.5	0
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	Nitration	Abs/cm	*ASTM D7624	>20	10.5	10.0	10.1
Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.4 16.9	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	20.8	19.7
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 10.2 8.7 8.6 4.9	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	16.4	16.9
	Base Number (BN)	mg KOH/g	ASTM D2896	10.2	8.7	8.6	4.9



OIL ANALYSIS REPORT



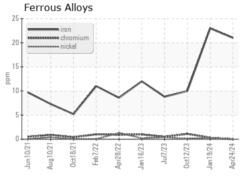




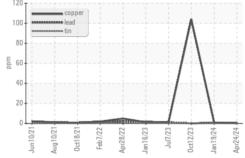
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

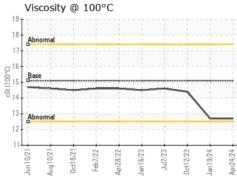
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	15.1	12.7	12.7	14.4	

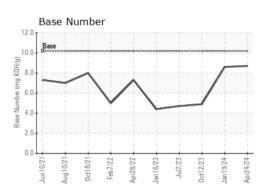
GRAPHS



Non-ferrous Metals











Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0115513 Lab Number : 06161214 Unique Number : 10996637

Test Package : FLEET

Received : 26 Apr 2024 **Tested** : 26 Apr 2024 Diagnosed

: 29 Apr 2024 - Sean Felton

GFL Environmental - 882 - Gainesville

5002 SW 41st Blvd Gainesville, FL

US 32608 Contact: ROBERT CLARK robert.clark@gflenv.com

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: GFL882 [WUSCAR] 06161214 (Generated: 04/29/2024 13:24:37) Rev: 1

Submitted By: CARL MIMS

T:

F: