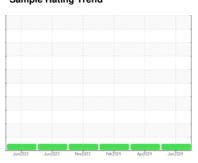


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id 733022

Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (--- 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

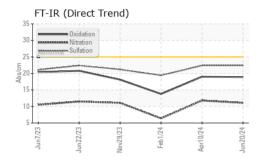
Fluid Condition

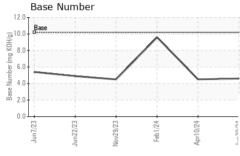
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

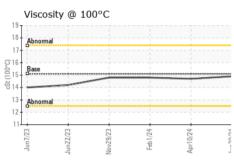
SAMPLE INFORMATION method limit/base current history1 history2	(QTS) Junt023 Junt023 Nov2023 Feb2024 Apr2024 Junt024							
Sample Date Client Info 3668 3052 2469	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2	
Machine Age hrs Client Info 3668 3052 2469 Oil Age hrs Client Info 600 3152 3708 Oil Changed Client Info Changed	Sample Number		Client Info		GFL0121741	GFL0106908	GFL0092166	
Machine Age hrs Client Info 3668 3052 2469 Oil Age hrs Client Info 600 3152 3708 Oil Changed Client Info Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed Changed </th <th><u>'</u></th> <th></th> <th>Client Info</th> <th></th> <th>20 Jun 2024</th> <th>10 Apr 2024</th> <th>01 Feb 2024</th>	<u>'</u>		Client Info		20 Jun 2024	10 Apr 2024	01 Feb 2024	
Oil Age hrs Client Info 600 3152 3708 Oil Changed Changed <th>•</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>3668</th> <th></th> <th>2469</th>	•	hrs	Client Info		3668		2469	
Oil Changed Sample Status Client Info Changed NORMAL		hrs	Client Info		600	3152	3708	
Sample Status NORMAL NORMAL NORMAL NORMAL 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 6 6 6 6 Chromium ppm ASTM D5185m >4 <1	-		Client Info		Changed	Changed	Changed	
Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 6 6 6 Chromium ppm ASTM D5185m >2 0 0 1 Nickel ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >30 <1 <1 1 Copper ppm ASTM D5185m >30 <1 <1 1 Vanadium ppm ASTM D5185m >4 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 <0 Cadmium ppm ASTM D5185m 50 8 7 6	-				_			
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 6 6 6 Chromium ppm ASTM D5185m >0 0 1 Nickel ppm ASTM D5185m >2 0 0 1 Titanium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >9 3 2 3 Lead ppm ASTM D5185m >35 <1 0 2 Tin ppm ASTM D5185m 0 0 0 <1 <t< th=""><th>CONTAMINAT</th><th>ION</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	CONTAMINAT	ION	method	limit/base	current	history1	history2	
Iron	Water		WC Method	>0.1	NEG	NEG	NEG	
Chromium ppm ASTM D5185m >4 <1	WEAR METAL	S	method	limit/base	current	history1	history2	
Nickel	Iron	ppm	ASTM D5185m	>50	6	6	6	
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >9 3 2 3 Lead ppm ASTM D5185m >30 <1 <1 1 Copper ppm ASTM D5185m >35 <1 0 2 Tin ppm ASTM D5185m >4 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 8 7 6 <tr< th=""><th>Chromium</th><th>ppm</th><th>ASTM D5185m</th><th>>4</th><th><1</th><th><1</th><th><1</th></tr<>	Chromium	ppm	ASTM D5185m	>4	<1	<1	<1	
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >9 3 2 3 Lead ppm ASTM D5185m >30 <1	Nickel	ppm	ASTM D5185m	>2	0	0	1	
Aluminum	Titanium	ppm	ASTM D5185m		0	0	0	
Lead	Silver	ppm	ASTM D5185m	>3	0	0	0	
Copper ppm ASTM D5185m >35 <1	Aluminum	ppm	ASTM D5185m	>9	3	2	3	
Tin ppm ASTM D5185m >4 <1	Lead	ppm	ASTM D5185m	>30	<1	<1	1	
Vanadium ppm ASTM D5185m 0 0 <1	Copper	ppm	ASTM D5185m	>35	<1	0	2	
Cadmium ppm ASTM D5185m 0 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 8 7 6 Barium ppm ASTM D5185m 50 0 0 0 Molybdenum ppm ASTM D5185m 50 53 52 52 Manganese ppm ASTM D5185m 50 547 529 531 Calcium ppm ASTM D5185m 560 547 529 531 Calcium ppm ASTM D5185m 1510 1607 1619 1530 Phosphorus ppm ASTM D5185m 780 638 674 666 Zinc ppm ASTM D5185m 2040 2360 2617 2355 CONTAMINANTS method limit/base current history1 history2	Tin	ppm	ASTM D5185m	>4	<1	<1	<1	
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	<1	
Boron ppm ASTM D5185m 50 8 7 6 Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 50 53 52 52 Manganese ppm ASTM D5185m 0 0 0 1 Magnesium ppm ASTM D5185m 560 547 529 531 Calcium ppm ASTM D5185m 780 638 674 666 Zinc ppm ASTM D5185m 780 638 674 666 Zinc ppm ASTM D5185m 870 995 917 935 Sulfur ppm ASTM D5185m 2040 2360 2617 2355 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m >20	Cadmium	ppm	ASTM D5185m		0	0	0	
Barium ppm ASTM D5185m 5 0 0 0 Molybdenum ppm ASTM D5185m 50 53 52 52 Manganese ppm ASTM D5185m 0 0 0 1 Magnesium ppm ASTM D5185m 560 547 529 531 Calcium ppm ASTM D5185m 1510 1607 1619 1530 Phosphorus ppm ASTM D5185m 780 638 674 666 Zinc ppm ASTM D5185m 870 995 917 935 Sulfur ppm ASTM D5185m 2040 2360 2617 2355 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m 7 7 7 7 Potassium ppm ASTM D5185m	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum ppm ASTM D5185m 50 53 52 52 Manganese ppm ASTM D5185m 0 0 0 1 Magnesium ppm ASTM D5185m 560 547 529 531 Calcium ppm ASTM D5185m 560 547 529 531 Calcium ppm ASTM D5185m 1510 1607 1619 1530 Phosphorus ppm ASTM D5185m 780 638 674 666 Zinc ppm ASTM D5185m 870 995 917 935 Sulfur ppm ASTM D5185m 2040 2360 2617 2355 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base<	Boron	ppm	ASTM D5185m	50	8	7	6	
Manganese ppm ASTM D5185m 0 0 0 1 Magnesium ppm ASTM D5185m 560 547 529 531 Calcium ppm ASTM D5185m 1510 1607 1619 1530 Phosphorus ppm ASTM D5185m 780 638 674 666 Zinc ppm ASTM D5185m 870 995 917 935 Sulfur ppm ASTM D5185m 2040 2360 2617 2355 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.9 Nitration Abs/cm *ASTM D7844 >20	Barium	ppm	ASTM D5185m	5	0	0	0	
Magnesium ppm ASTM D5185m 560 547 529 531 Calcium ppm ASTM D5185m 1510 1607 1619 1530 Phosphorus ppm ASTM D5185m 780 638 674 666 Zinc ppm ASTM D5185m 870 995 917 935 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 0 0 0.9 Nitration Abs/cm *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7415 >30	Molybdenum	ppm	ASTM D5185m	50	53	52	52	
Calcium ppm ASTM D5185m 1510 1607 1619 1530 Phosphorus ppm ASTM D5185m 780 638 674 666 Zinc ppm ASTM D5185m 870 995 917 935 Sulfur ppm ASTM D5185m 2040 2360 2617 2355 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m 7 7 7 Potassium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.9 Nitration Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION limit/base current his	Manganese	ppm	ASTM D5185m	0	0	0	1	
Phosphorus ppm ASTM D5185m 780 638 674 666 Zinc ppm ASTM D5185m 870 995 917 935 Sulfur ppm ASTM D5185m 2040 2360 2617 2355 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m 7 7 7 Potassium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.9 Nitration Abs/cm *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current	Magnesium	ppm	ASTM D5185m	560	547	529	531	
Zinc ppm ASTM D5185m 870 995 917 935 Sulfur ppm ASTM D5185m 2040 2360 2617 2355 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m 7 7 7 Potassium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	Calcium	ppm	ASTM D5185m	1510	1607	1619	1530	
Sulfur ppm ASTM D5185m 2040 2360 2617 2355 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m >+100 3 4 4 Potassium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.9 Nitration Abs/cm *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	Phosphorus	ppm	ASTM D5185m	780	638	674	666	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m 7 7 7 Potassium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.9 Nitration Abs/cm *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	Zinc	ppm	ASTM D5185m	870	995	917	935	
Silicon ppm ASTM D5185m >+100 3 4 4 Sodium ppm ASTM D5185m 7 7 7 Potassium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.9 Nitration Abs/cm *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	Sulfur	ppm	ASTM D5185m	2040	2360	2617	2355	
Sodium ppm ASTM D5185m 7 7 7 Potassium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.9 Nitration Abs/cm *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	CONTAMINAN	TS	method	limit/base	current	history1	history2	
Potassium ppm ASTM D5185m >20 8 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.9 Nitration Abs/cm *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	Silicon	ppm	ASTM D5185m	>+100	3		4	
INFRA-RED	Sodium	ppm	ASTM D5185m		7	7	7	
Soot % % *ASTM D7844 0 0 0.9 Nitration Abs/cm *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	Potassium	ppm	ASTM D5185m	>20	8	4	9	
Nitration Abs/cm *ASTM D7624 >20 11.1 11.8 6.4 Sulfation Abs/.1mm *ASTM D7615 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	INFRA-RED		method	limit/base	current	history1	history2	
Sulfation Abs/.1mm *ASTM D7415 >30 22.4 22.4 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	Soot %		*ASTM D7844			0		
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	Nitration	Abs/cm	*ASTM D7624	>20	11.1	11.8	6.4	
Oxidation Abs/.1mm *ASTM D7414 >25 18.9 19.0 13.8	Sulfation	Abs/.1mm	*ASTM D7415	>30	22.4	22.4	19.4	
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2	
Base Number (BN) mg KOH/g ASTM D2896 10.2 4.6 4.5 9.6	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.9	19.0	13.8	
	Base Number (BN)	mg KOH/g	ASTM D2896	10.2	4.6	4.5	9.6	



OIL ANALYSIS REPORT



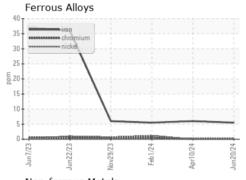


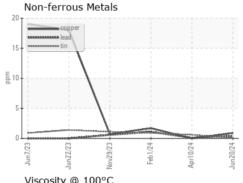


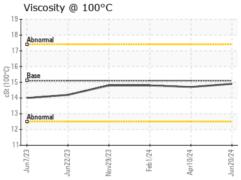
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

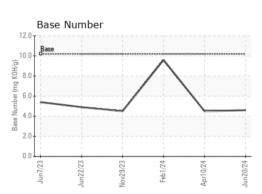
FLUID PROPE	ERITES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.9	14.7	14.8

GRAPHS













Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0121741 Lab Number : 06220995 Unique Number : 11099192

Test Package : FLEET

Received **Tested** Diagnosed

: 26 Jun 2024 : 27 Jun 2024 : 27 Jun 2024 - Wes Davis

GFL Environmental - 856 - Houston South 8515 Highway 6 South

Houston, TX US 77083

Contact: Apolinar Zacarias pzacariascano@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)

T:

F: