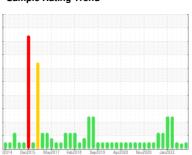


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id 10534 Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (10 GAL)

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.

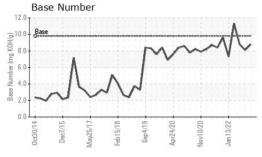
Fluid Condition

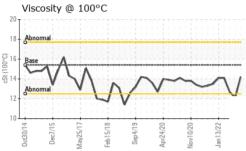
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Client Info GFL0072026 GFL0092495 GFL0068930 Sample Date Client Info O4 Dec 2023 31 Aug 2023 13 Jan 2023 31 Jan 2023 3	GAL)		12014 Dec20	15 May2017 Feb2018	Sep2019 Apr2020 Nov2020 .	Jan 2022	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 600 195 385	Sample Number		Client Info		GFL0072026	GFL0092495	GFL0066930
Dil Age	Sample Date		Client Info		04 Dec 2023	31 Aug 2023	13 Jan 2023
Oil Changed Sample Status Client Info N/A Not Changed NORMAL Changed NORMAL CONTAMINATION method Imit/base current history1 history2 Fuel WC Method >3.0 <1.0	Machine Age	hrs	Client Info		22470	21803	21363
NORMAL ATTENTION NORMAL	Oil Age	hrs	Client Info		600	195	385
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >3.0 <1.0	Oil Changed		Client Info		N/A	Not Changd	Changed
Fuel	Sample Status				NORMAL	ATTENTION	NORMAL
Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method Imitibase current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >5 <1 <1 <1 Chromium ppm ASTM D5185m >5 <1 <1 <1 Nickel ppm ASTM D5185m >4 0 0 0 Titanium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 All Lead ppm ASTM D5185m >25 <1 0 <1 Copper ppm ASTM D5185m >4 <1 0 <1 Tin ppm ASTM D5185m >100 1 10 <1 Calcadium ppm ASTM D5185m <1 <1 <1 </td <td>CONTAMINATI</td> <td>ON</td> <td>method</td> <td>limit/base</td> <td>current</td> <td>history1</td> <td>history2</td>	CONTAMINATI	ON	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	1.9	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >75 11 25 7 Chromium ppm ASTM D5185m >5 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Irron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m 55 <1 <1 <1 Nickel ppm ASTM D5185m >4 0 0 0 Tittanium ppm ASTM D5185m >2 -1 <1	WEAR METALS	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>75	11	25	7
Titanium	Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>4	0	0	0
Aluminum ppm ASTM D5185m >15 4 3 3 Lead ppm ASTM D5185m >25 <1	Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Lead	Silver	ppm	ASTM D5185m	>2	0	0	
Copper ppm ASTM D5185m >100 1 10 <1 Tin ppm ASTM D5185m >4 <1	Aluminum	ppm	ASTM D5185m	>15	4	3	3
Tin ppm ASTM D5185m >4 <1 0 0 0 Antimony ppm ASTM D5185m Vanadium ppm ASTM D5185m <1 <1 0 Cadmium ppm ASTM D5185m	Lead	ppm	ASTM D5185m	>25	<1	0	<1
Antimony	Copper	ppm	ASTM D5185m	>100	1	10	<1
Vanadium ppm ASTM D5185m <1 <1 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 1 40 11 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 42 42 57 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 741 515 890 Calcium ppm ASTM D5185m 1070 616 1479 994 Phosphorus ppm ASTM D5185m 1270 784 907 1133 Sulfur ppm ASTM D5185m 2060 1935 2684 3297 CONTAMINANTS method limit/base current h	Tin	ppm	ASTM D5185m	>4	<1	0	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 1 40 11 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 42 42 57 Manganese ppm ASTM D5185m 0 <1	Antimony	ppm	ASTM D5185m				
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 1 40 11 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 42 42 57 Manganese ppm ASTM D5185m 0 <1	Vanadium	ppm	ASTM D5185m		<1	<1	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 42 42 57 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 42 42 57 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 741 515 890 Calcium ppm ASTM D5185m 1070 616 1479 994 Phosphorus ppm ASTM D5185m 1150 633 694 928 Zinc ppm ASTM D5185m 1270 784 907 1133 Sulfur ppm ASTM D5185m 2060 1935 2684 3297 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 17 5 Sodium ppm ASTM D5185m 5 52 7 Potassium ppm ASTM D5185m 5 52 7 Potassium ppm ASTM D7844 >6 0.5 <	Boron	ppm	ASTM D5185m	0	1	40	11
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 741 515 890 Calcium ppm ASTM D5185m 1070 616 1479 994 Phosphorus ppm ASTM D5185m 1150 633 694 928 Zinc ppm ASTM D5185m 1270 784 907 1133 Sulfur ppm ASTM D5185m 2060 1935 2684 3297 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 17 5 Sodium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7845<	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 741 515 890 Calcium ppm ASTM D5185m 1070 616 1479 994 Phosphorus ppm ASTM D5185m 1150 633 694 928 Zinc ppm ASTM D5185m 1270 784 907 1133 Sulfur ppm ASTM D5185m 2060 1935 2684 3297 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 17 5 Sodium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION *ASTM D7414 <t< td=""><td>Molybdenum</td><td>ppm</td><td>ASTM D5185m</td><td>60</td><td>42</td><td>42</td><td>57</td></t<>	Molybdenum	ppm	ASTM D5185m	60	42	42	57
Calcium ppm ASTM D5185m 1070 616 1479 994 Phosphorus ppm ASTM D5185m 1150 633 694 928 Zinc ppm ASTM D5185m 1270 784 907 1133 Sulfur ppm ASTM D5185m 2060 1935 2684 3297 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 17 5 Sodium ppm ASTM D5185m 5 52 7 Potassium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION *ASTM D7	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 1150 633 694 928 Zinc ppm ASTM D5185m 1270 784 907 1133 Sulfur ppm ASTM D5185m 2060 1935 2684 3297 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 17 5 Sodium ppm ASTM D5185m 5 52 7 Potassium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION *ASTM D7414 <t< td=""><td>Magnesium</td><td>ppm</td><td>ASTM D5185m</td><td>1010</td><td>741</td><td>515</td><td>890</td></t<>	Magnesium	ppm	ASTM D5185m	1010	741	515	890
Zinc ppm ASTM D5185m 1270 784 907 1133 Sulfur ppm ASTM D5185m 2060 1935 2684 3297 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 17 5 Sodium ppm ASTM D5185m 5 52 7 Potassium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 6.6 Sulfation Abs/lmm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/lmm *ASTM D7414	Calcium	ppm	ASTM D5185m	1070	616	1479	994
Sulfur ppm ASTM D5185m 2060 1935 2684 3297 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 17 5 Sodium ppm ASTM D5185m 5 52 7 Potassium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	Phosphorus	ppm	ASTM D5185m	1150	633	694	928
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 17 5 Sodium ppm ASTM D5185m 5 52 7 Potassium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	Zinc	ppm	ASTM D5185m	1270	784	907	1133
Silicon ppm ASTM D5185m >25 7 17 5 Sodium ppm ASTM D5185m 5 52 7 Potassium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	Sulfur	ppm	ASTM D5185m	2060	1935	2684	3297
Sodium ppm ASTM D5185m 5 52 7 Potassium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 10 2 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	Silicon	ppm	ASTM D5185m	>25	7	17	5
INFRA-RED	Sodium	ppm	ASTM D5185m		5	52	7
Soot % % *ASTM D7844 >6 0.5 0.4 0.2 Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	Potassium	ppm	ASTM D5185m	>20	10	2	2
Nitration Abs/cm *ASTM D7624 >20 6.1 6.0 6.6 Sulfation Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 18.1 19.9 17.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	Soot %	%	*ASTM D7844	>6	0.5	0.4	0.2
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	Nitration	Abs/cm	*ASTM D7624	>20	6.1	6.0	6.6
Oxidation Abs/.1mm *ASTM D7414 >25 13.4 16.4 13.8	Sulfation	Abs/.1mm	*ASTM D7415	>30	18.1	19.9	17.9
	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.8 8.1 8.8	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4	16.4	13.8
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.8	8.1	8.8



OIL ANALYSIS REPORT

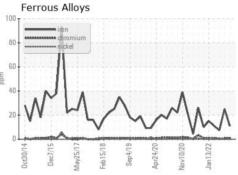


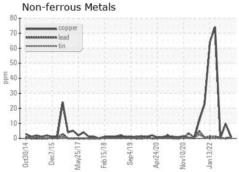


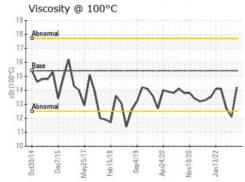
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

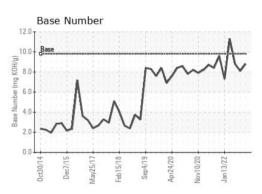
FLUID PROPE	ERITES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	<u> 12.1</u>	12.7

GRAPHS













Certificate L2367

Laboratory

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

: 06027100 : 10776891

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0072026 Received : 06 Dec 2023 Diagnosed : 08 Dec 2023

Diagnostician : Angela Borella

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)

GFL Environmental - 094 - Cedartown

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