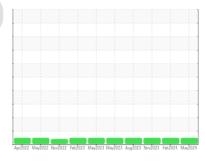


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
224035-35

Component

Diesel Engine

PETRO CANADA DURON SHP 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.

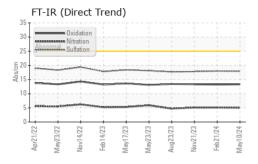
Fluid Condition

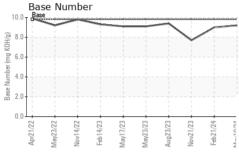
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

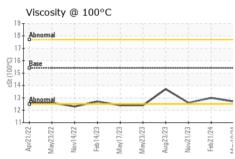
Sample Number Client Info GFL0121137 GFL0091980 GFL0091980 GRundle Date Client Info 10 May 2024 21 Feb 2024 21 Nov 202 21 Nov	SAMPLE INFORM	ATI <u>ON</u>	method	limit/base	current	history1	history2
Sample Date Client Info 10 May 2024 21 Feb 2024 21 Nov 2026 Machine Age hrs Client Info 14728 14668 14552 14502 14728 14668 14552 14502 14728 14668 14552 14728 14668 14552 14728 14668 14552 14728 14668 14552 14728 14668 14552 14728 14668 14552 14728 14668 14552 14728 14728 14668 14552 14728 14728 14668 14552 14728 1472							GFL0091978
Machine Age hrs Client Info 14728 14668 14552							21 Nov 2023
Oil Age hrs Client Info 300 116 145 Oil Changed Client Info Changed Changed<	·	hrs			-		
Client Info Changed Changed NORMAL NOR					-		
NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history1 history1 water WC Method >0.2 NEG NEG							
Fuel	-					_	_
Water Glycol WC Method >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >150 7 4 10 Chromium ppm ASTM D5185m >15 <1 0 <1 Nickel ppm ASTM D5185m >4 0 0 <1 Silver ppm ASTM D5185m >4 0 0 0 Silver ppm ASTM D5185m >15 <1 <1 <1 Lead ppm ASTM D5185m >70 <1 <1 <1 Copper ppm ASTM D5185m >70 <1 <1 <1 Tin ppm ASTM D5185m >5 0 <1 <1 Vanadium ppm ASTM D5185m 0 <1 <1 Cadmium ppm ASTM D5185m 0 7 6 <td< th=""><th>CONTAMINATIO</th><th>ON</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></td<>	CONTAMINATIO	ON	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Irron	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>150	7	4	10
Description	Chromium	ppm	ASTM D5185m	>15	<1	0	<1
Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >15 <1 <1 <1 Lead ppm ASTM D5185m >70 <1 <1 <1 Copper ppm ASTM D5185m >175 0 <1 <1 Vanadium ppm ASTM D5185m 0 <1 <1 <1 Vanadium ppm ASTM D5185m 0 <1 <1 <1 Vanadium ppm ASTM D5185m 0 <1 <1 <0 Cadmium ppm ASTM D5185m 0 <7 6 4 Boron ppm ASTM D5185m 0 0 0 0 Berium ppm ASTM D5185m 0 0 0 0 0 Barium ppm ASTM D5185m 0 <1 <			ASTM D5185m	>4	0	0	<1
Aluminum	Titanium	ppm	ASTM D5185m		0	0	0
Aluminum			ASTM D5185m	>3	0		
Lead	Aluminum	ppm	ASTM D5185m	>15	<1	<1	<1
Copper ppm ASTM D5185m >175 0 <1 <1 Tin ppm ASTM D5185m >5 0 <1					<1	<1	<1
Trin			ASTM D5185m	>175	0	<1	<1
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 7 6 4 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 <1		ppm	ASTM D5185m	>5	0	<1	<1
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 7 6 4 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 63 55 63 Manganese ppm ASTM D5185m 0 <1			ASTM D5185m		0	<1	<1
Boron ppm ASTM D5185m 0 0 0 0 0 0 0 0 0			ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 63 55 63 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 63 55 63 Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 1017 865 947 Calcium ppm ASTM D5185m 1070 1131 969 1113 Phosphorus ppm ASTM D5185m 1150 1095 964 1111 Zinc ppm ASTM D5185m 1270 1315 1107 1249 Sulfur ppm ASTM D5185m 2060 3836 2832 2763 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 2 2 3 Sodium ppm ASTM D5185m >20 <1 0 0 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7624 <	Boron	ppm	ASTM D5185m	0	7	6	4
Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 1017 865 947 Calcium ppm ASTM D5185m 1070 1131 969 1113 Phosphorus ppm ASTM D5185m 1150 1095 964 1111 Zinc ppm ASTM D5185m 1270 1315 1107 1249 Sulfur ppm ASTM D5185m 2060 3836 2832 2763 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 2 2 3 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 1017 865 947 Calcium ppm ASTM D5185m 1070 1131 969 1113 Phosphorus ppm ASTM D5185m 1150 1095 964 1111 Zinc ppm ASTM D5185m 1270 1315 1107 1249 Sulfur ppm ASTM D5185m 2060 3836 2832 2763 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 2 2 3 Sodium ppm ASTM D5185m >20 <1 <1 3 Potassium ppm ASTM D5185m >20 <1 0 0 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Sulfation Abs/.1mm *ASTM D7624	Molybdenum	ppm	ASTM D5185m	60	63	55	63
Calcium ppm ASTM D5185m 1070 1131 969 1113 Phosphorus ppm ASTM D5185m 1150 1095 964 1111 Zinc ppm ASTM D5185m 1270 1315 1107 1249 Sulfur ppm ASTM D5185m 2060 3836 2832 2763 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 2 2 3 Sodium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m	0	<1	0	<1
Phosphorus ppm ASTM D5185m 1150 1095 964 1111 Zinc ppm ASTM D5185m 1270 1315 1107 1249 Sulfur ppm ASTM D5185m 2060 3836 2832 2763 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 2 2 3 Sodium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m	1010	1017	865	947
Zinc ppm ASTM D5185m 1270 1315 1107 1249 Sulfur ppm ASTM D5185m 2060 3836 2832 2763 CONTAMINANTS method limit/base current history history Silicon ppm ASTM D5185m >25 2 2 3 Sodium ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m	1070	1131	969	1113
Sulfur ppm ASTM D5185m 2060 3836 2832 2763 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >25 2 2 3 Sodium ppm ASTM D5185m >20 <1 <1 3 Potassium ppm ASTM D5185m >20 <1 0 0 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.0 5.1 5.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 18.0 17.8 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 13.3 13.2 13.3	Phosphorus	ppm	ASTM D5185m	1150	1095	964	1111
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 2 3 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m	1270	1315	1107	1249
Silicon ppm ASTM D5185m >25 2 2 3 Sodium ppm ASTM D5185m <1 <1 3 Potassium ppm ASTM D5185m >20 <1 0 0 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.0 5.1 5.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 18.0 17.8 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 13.3 13.2 13.3	Sulfur	ppm	ASTM D5185m	2060	3836	2832	2763
Sodium ppm ASTM D5185m <1 <1 3 Potassium ppm ASTM D5185m >20 <1 0 0 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.0 5.1 5.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 18.0 17.8 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 13.3 13.2 13.3	CONTAMINANT	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 0 0 INFRA-RED method limit/base current history1 history Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.0 5.1 5.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 18.0 17.8 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 13.3 13.2 13.3	Silicon	ppm	ASTM D5185m	>25	2	2	3
INFRA-RED	Sodium	ppm	ASTM D5185m		<1	<1	3
Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.0 5.1 5.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 18.0 17.8 FLUID DEGRADATION method limit/base current history1 history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.3 13.2 13.3	Potassium	ppm	ASTM D5185m	>20	<1	0	0
Nitration Abs/cm *ASTM D7624 >20 5.0 5.1 5.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 18.0 17.8 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 13.3 13.2 13.3	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 5.0 5.1 5.1 Sulfation Abs/.1mm *ASTM D7415 >30 17.9 18.0 17.8 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 13.3 13.2 13.3	Soot %	%	*ASTM D7844	>3	0.3	0.3	0.3
Sulfation Abs/.1mm *ASTM D7415 >30 17.9 18.0 17.8 FLUID DEGRADATION method limit/base current history1 history1 history Oxidation Abs/.1mm *ASTM D7414 >25 13.3 13.2 13.3	Nitration	Abs/cm	*ASTM D7624	>20	5.0	5.1	
Oxidation							
	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.3	13.2	13.3
Base Number (BN) mg KOH/g ASTM D2896 9.8 9.2 9.0 7.7		mg KOH/g	ASTM D2896	9.8	9.2	9.0	7.7



OIL ANALYSIS REPORT



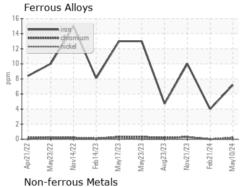


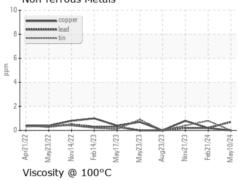


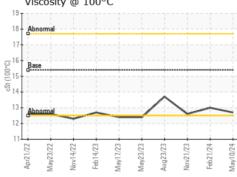
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

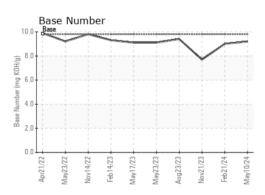
FLUID PROPI	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.7	13.0	12.6

GRAPHS













Certificate 12367

Laboratory Sample No.

: GFL0121137 Lab Number : 06176884 Unique Number : 11022937 Test Package : FLEET

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 13 May 2024 **Tested**

: 14 May 2024 Diagnosed : 14 May 2024 - Wes Davis

GFL Environmental - 683 - Ruckersville Hauling

261 INDUSTRIAL DR Ruckersville, VA US 22698

Contact: Jaf Finney jfinney@gflenv.com T: (434)990-4972

* - 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)