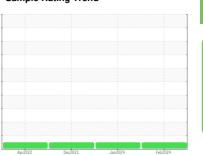


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id
776M
Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 15W40 (--- 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

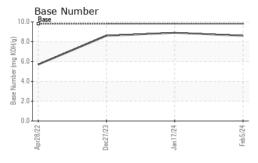
Fluid Condition

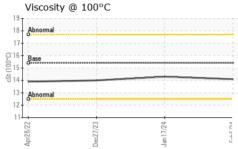
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Client Info GFL0110151 GFL0104997 GFL0104398 Sample Date Client Info Dis Feb 2024 17 Jan 2024 27 Dec 2023 32793			Apr202	2 Dec2023	Jan2024 F	eb2024	
Sample Date	SAMPLE INFO	PRMATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 12954 12803 32793	Sample Number		Client Info		GFL0110151	GFL0109977	GFL0104398
Oil Age hrs Client Info 600 600 0 Oil Changed Client Info Changed N/A Sample Status NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 Fuel WC Method >3.0 <1.0	Sample Date		Client Info		05 Feb 2024	17 Jan 2024	27 Dec 2023
Oil Age hrs Client Info 600 600 0 Oil Changed Sample Status Normal Changed NAMAL NORMAL NORMAL CONTAMINATION method limit base current history1 history2 Fuel WC Method >3.0 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.0.2 NEG NEG NEG NEG Glycol WC Method Image: Neg NEG NEG NEG NEG WEAR METALS method limit base current history1 history2 Iron ppm ASTM D5185m >90 1 4 12 Chromium ppm ASTM D5185m >90 1 4 12 Chromium ppm ASTM D5185m >20 0 0 <1 Nickel ppm ASTM D5185m >2 0 0 1 Lead ppm ASTM D5185m >20 0 0	•	hrs	Client Info		12954	12803	32793
Cilent Info Changed NA NORMAL							
NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2 variety history2 history2 variety history2 history2 NEG NEG	•						
Fuel			Olioni iilio		_		
Fuel		ATION	method	limit/base			
Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method Imitibase current nistory1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 1 4 12 Chromium ppm ASTM D5185m >20 0 0 <1		TION					
WEAR METALS							
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 1 4 12 Chromium ppm ASTM D5185m >20 0 0 <1				>0.2			
Irron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 0 0 <1	WEAR META	ALS	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>90	1	4	12
Titanium	Chromium	ppm	ASTM D5185m	>20	0	0	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum ppm ASTM D5185m >20 1 2 3 Lead ppm ASTM D5185m >40 <1	Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Lead	Silver	ppm	ASTM D5185m	>2	0	0	1
Lead	Aluminum	ppm	ASTM D5185m	>20	1	2	3
Copper ppm ASTM D5185m >330 <1 <1 3 Tin ppm ASTM D5185m >15 <1	Lead			>40	<1		
Tin	Copper		ASTM D5185m	>330	<1		
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 2 12 Barium ppm ASTM D5185m 0 <1 0 0 Molybdenum ppm ASTM D5185m 0 <1 0 0 Manganese ppm ASTM D5185m 0 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 868 905 885 Calcium ppm ASTM D5185m 1070 974 1005 1072 Phosphorus ppm ASTM D5185m 1270 1145 1117 1218 Sulfur ppm ASTM D5185m 2060 3151 2872 3021 CONTAMINANTS method limit/base current his	• •						
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1				7.0			
ADDITIVES					-		
Boron		ррпп		limit/bass			
Barium ppm ASTM D5185m 0 <1 0 0 Molybdenum ppm ASTM D5185m 60 55 54 61 Manganese ppm ASTM D5185m 0 0 0 <1							
Molybdenum ppm ASTM D5185m 60 55 54 61 Manganese ppm ASTM D5185m 0 0 0 <1 Magnesium ppm ASTM D5185m 1010 868 905 885 Calcium ppm ASTM D5185m 1070 974 1005 1072 Phosphorus ppm ASTM D5185m 1150 959 852 1028 Zinc ppm ASTM D5185m 1270 1145 1117 1218 Sulfur ppm ASTM D5185m 2060 3151 2872 3021 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 5 8 Sodium ppm ASTM D5185m >20 2 3 2 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7624 >20 <td></td> <td></td> <td></td> <td></td> <th></th> <td></td> <td></td>							
Manganese ppm ASTM D5185m 0 0 0 <1 Magnesium ppm ASTM D5185m 1010 868 905 885 Calcium ppm ASTM D5185m 1070 974 1005 1072 Phosphorus ppm ASTM D5185m 1150 959 852 1028 Zinc ppm ASTM D5185m 1270 1145 1117 1218 Sulfur ppm ASTM D5185m 2060 3151 2872 3021 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 5 8 Sodium ppm ASTM D5185m >20 2 3 2 Potassium ppm ASTM D5185m >20 2 -1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624							
Magnesium ppm ASTM D5185m 1010 868 905 885 Calcium ppm ASTM D5185m 1070 974 1005 1072 Phosphorus ppm ASTM D5185m 1150 959 852 1028 Zinc ppm ASTM D5185m 1270 1145 1117 1218 Sulfur ppm ASTM D5185m 2060 3151 2872 3021 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 5 8 Sodium ppm ASTM D5185m >20 2 3 2 Potassium ppm ASTM D5185m >20 2 <1	•						
Calcium ppm ASTM D5185m 1070 974 1005 1072 Phosphorus ppm ASTM D5185m 1150 959 852 1028 Zinc ppm ASTM D5185m 1270 1145 1117 1218 Sulfur ppm ASTM D5185m 2060 3151 2872 3021 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 5 8 Sodium ppm ASTM D5185m >20 2 3 Potassium ppm ASTM D5185m >20 2 <1	•	ppm					
Phosphorus ppm ASTM D5185m 1150 959 852 1028 Zinc ppm ASTM D5185m 1270 1145 1117 1218 Sulfur ppm ASTM D5185m 2060 3151 2872 3021 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 5 8 Sodium ppm ASTM D5185m >20 2 3 Potassium ppm ASTM D5185m >20 2 <1							
Zinc ppm ASTM D5185m 1270 1145 1117 1218 Sulfur ppm ASTM D5185m 2060 3151 2872 3021 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 5 8 Sodium ppm ASTM D5185m 0 2 3 Potassium ppm ASTM D5185m >20 2 <1		ppm	ASTM D5185m	1070	974		1072
Sulfur ppm ASTM D5185m 2060 3151 2872 3021 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 5 8 Sodium ppm ASTM D5185m 0 2 3 Potassium ppm ASTM D5185m >20 2 <1		ppm		1150	959		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 2 5 8 Sodium ppm ASTM D5185m 0 2 3 Potassium ppm ASTM D5185m >20 2 <1	Zinc	ppm	ASTM D5185m	1270	1145	1117	1218
Silicon ppm ASTM D5185m >25 2 5 8 Sodium ppm ASTM D5185m 0 2 3 Potassium ppm ASTM D5185m >20 2 <1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 4.4 4.6 7.8 Sulfation Abs/.1mm *ASTM D7415 >30 17.5 17.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.0 13.0 15.2	Sulfur	ppm	ASTM D5185m	2060	3151	2872	3021
Sodium ppm ASTM D5185m 0 2 3 Potassium ppm ASTM D5185m >20 2 <1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 4.4 4.6 7.8 Sulfation Abs/.1mm *ASTM D7415 >30 17.5 17.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.0 13.0 15.2	CONTAMINA	ANTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 <1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 4.4 4.6 7.8 Sulfation Abs/.1mm *ASTM D7415 >30 17.5 17.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.0 13.0 15.2	Silicon	ppm	ASTM D5185m	>25			
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 4.4 4.6 7.8 Sulfation Abs/.1mm *ASTM D7415 >30 17.5 17.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.0 13.0 15.2	Sodium	ppm	ASTM D5185m		0	2	3
Soot % % *ASTM D7844 >6 0.1 0.1 0.3 Nitration Abs/cm *ASTM D7624 >20 4.4 4.6 7.8 Sulfation Abs/.1mm *ASTM D7415 >30 17.5 17.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.0 13.0 15.2	Potassium	ppm	ASTM D5185m	>20	2	<1	2
Nitration Abs/cm *ASTM D7624 >20 4.4 4.6 7.8 Sulfation Abs/.1mm *ASTM D7415 >30 17.5 17.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.0 13.0 15.2	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 17.5 17.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.0 13.0 15.2	Soot %	%	*ASTM D7844	>6	0.1	0.1	0.3
Sulfation Abs/.1mm *ASTM D7415 >30 17.5 17.3 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.0 13.0 15.2	Nitration	Abs/cm	*ASTM D7624	>20	4.4	4.6	7.8
Oxidation Abs/.1mm *ASTM D7414 >25 13.0 13.0 15.2	Sulfation			>30		17.3	
	FLUID DEGR	ADATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.0	13.0	15.2
					8.6	8.9	8.6



OIL ANALYSIS REPORT

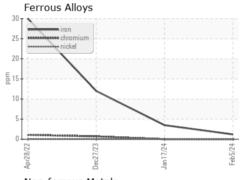


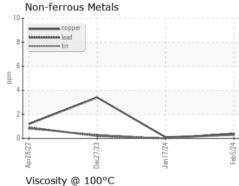


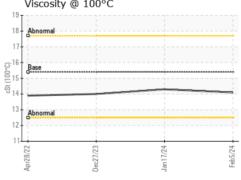
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual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

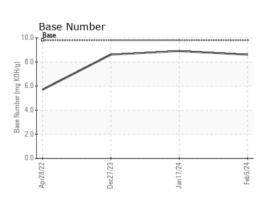
FLUID PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.3	14.0

GRAPHS













Laboratory Sample No.

Lab Number : 06083388 Unique Number : 10870833

: GFL0110151

Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 08 Feb 2024 **Tested** : 08 Feb 2024

Diagnosed

: 08 Feb 2024 - Wes Davis

GFL Environmental - 410 - Michigan West 39000 Van Born Rd

Wayne, MI US 48184

Contact: Belal Dgheish bdgheish@gflenv.com T: (734)714-2340

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)