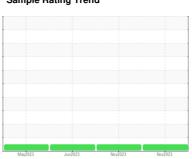


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id
4579M
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

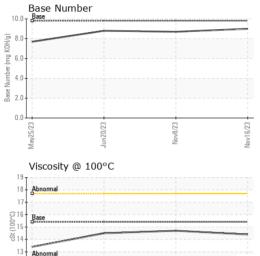
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Date Client Info 16 Nov 2023 08 Nov 2023 20 Jun 2023 Machine Age hrs Client Info 7087 7018 5848 7018 5848 7018 5848 7018 5848 7018 5848 7018 5848 7018 5848 7018 5848 7018 5848 7018 5848 7018 7018 5848 7018 7018 5848 7018 7	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 7087 7018 5848	Sample Number		Client Info		GFL0101575	GFL0101498	GFL0069825
Oil Age hrs Client Info 0 600 600 600 Oil Changed Sample Status Client Info Changed Changed Changed Changed Changed Changed Changed NoRMAL NORM	Sample Date		Client Info		16 Nov 2023	08 Nov 2023	20 Jun 2023
Cilient Info	Machine Age	hrs	Client Info		7087	7018	5848
NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2	Oil Age	hrs	Client Info		0	600	600
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >3.0 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 6 10 5 Chromium ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >20 0 0 0 Titanium ppm ASTM D5185m >2 0 0 0 ASTM D5185m >2 0 1 3 2 1 Copper ppm ASTM D5185m >30 <1 <1 0 Copper ppm ASTM D5185m 0 0 <1 0 Cadmium<	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method >0.2 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 6 10 5 Chromium ppm ASTM D5185m >20 0 <1	CONTAMINAT	ION	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 ppm ASTM D5185m >20 0 -1 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>90	6	10	5
Titanium	Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum	Silver		ASTM D5185m	>2	0	0	0
Lead	Aluminum	ppm	ASTM D5185m	>20	1	3	2
Copper ppm ASTM D5185m >330 <1 <1 0 Tin ppm ASTM D5185m >15 0 0 0 Vanadium ppm ASTM D5185m 0 <1	Lead	ppm		>40	0	0	0
Tin	Copper		ASTM D5185m	>330	<1	<1	0
Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 2 4 Barium ppm ASTM D5185m 0 0 7 0 Molybdenum ppm ASTM D5185m 60 59 63 59 Manganese ppm ASTM D5185m 0 0 0 <1 Magnesium ppm ASTM D5185m 1010 912 973 977 Calcium ppm ASTM D5185m 1070 1062 1108 1075 Phosphorus ppm ASTM D5185m 1270 1181 1299 1343 Sulfur ppm ASTM D5185m 2060 3057 3301 3226 CONTAMINANTS method limit/base current history1<	Tin		ASTM D5185m	>15	0	0	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 2 4 Barium ppm ASTM D5185m 0 0 7 0 Molybdenum ppm ASTM D5185m 0 0 0 -7 0 Molybdenum ppm ASTM D5185m 0 0 0 -1 0 Magnesium ppm ASTM D5185m 1010 912 973 977 Calcium ppm ASTM D5185m 1070 1062 1108 1075 Phosphorus ppm ASTM D5185m 1270 1181 1299 1343 Sulfur ppm ASTM D5185m 2060 3057 3301 3226 CONTAMINANTS method limit/base current history1 history2 Sodium ppm ASTM D5185m	Vanadium	• •	ASTM D5185m		0	<1	0
Boron	Cadmium		ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 7 0 Molybdenum ppm ASTM D5185m 60 59 63 59 Manganese ppm ASTM D5185m 0 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 59 63 59 Manganese ppm ASTM D5185m 0 0 0 <1 Magnesium ppm ASTM D5185m 1010 912 973 977 Calcium ppm ASTM D5185m 1070 1062 1108 1075 Phosphorus ppm ASTM D5185m 1150 1014 1076 1119 Zinc ppm ASTM D5185m 1270 1181 1299 1343 Sulfur ppm ASTM D5185m 2060 3057 3301 3226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m >20 2 4 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 <	Boron	ppm	ASTM D5185m	0	0	2	4
Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 1010 912 973 977 Calcium ppm ASTM D5185m 1070 1062 1108 1075 Phosphorus ppm ASTM D5185m 1150 1014 1076 1119 Zinc ppm ASTM D5185m 1270 1181 1299 1343 Sulfur ppm ASTM D5185m 2060 3057 3301 3226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m >20 2 4 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.2 0.3 Nitration Abs/cm *ASTM D7845 <td< td=""><th>Barium</th><td>ppm</td><td>ASTM D5185m</td><td>0</td><th>0</th><td>7</td><td>0</td></td<>	Barium	ppm	ASTM D5185m	0	0	7	0
Magnesium ppm ASTM D5185m 1010 912 973 977 Calcium ppm ASTM D5185m 1070 1062 1108 1075 Phosphorus ppm ASTM D5185m 1150 1014 1076 1119 Zinc ppm ASTM D5185m 1270 1181 1299 1343 Sulfur ppm ASTM D5185m 2060 3057 3301 3226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m >20 2 4 2 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7624 >20 5.5 7.7 7.3 Sulfation Abs/.mm "ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION "ASTM D7414	Molybdenum	ppm	ASTM D5185m	60	59	63	59
Calcium ppm ASTM D5185m 1070 1062 1108 1075 Phosphorus ppm ASTM D5185m 1150 1014 1076 1119 Zinc ppm ASTM D5185m 1270 1181 1299 1343 Sulfur ppm ASTM D5185m 2060 3057 3301 3226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m >20 2 4 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.2 0.3 Nitration Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *A	Manganese	ppm	ASTM D5185m	0	0	0	<1
Phosphorus ppm ASTM D5185m 1150 1014 1076 1119 Zinc ppm ASTM D5185m 1270 1181 1299 1343 Sulfur ppm ASTM D5185m 2060 3057 3301 3226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m >20 2 4 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 5.5 7.7 7.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs	Magnesium	ppm	ASTM D5185m	1010	912	973	977
Zinc ppm ASTM D5185m 1270 1181 1299 1343 Sulfur ppm ASTM D5185m 2060 3057 3301 3226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m >20 2 4 2 Potassium ppm ASTM D5185m >20 2 4 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 5.5 7.7 7.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm	Calcium	ppm	ASTM D5185m	1070	1062	1108	1075
Zinc ppm ASTM D5185m 1270 1181 1299 1343 Sulfur ppm ASTM D5185m 2060 3057 3301 3226 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m <1 8 6 Potassium ppm ASTM D5185m >20 2 4 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 5.5 7.7 7.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7	Phosphorus	ppm	ASTM D5185m	1150	1014	1076	1119
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m	1270	1181	1299	1343
Silicon ppm ASTM D5185m >25 4 3 2 Sodium ppm ASTM D5185m <1 8 6 Potassium ppm ASTM D5185m >20 2 4 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 5.5 7.7 7.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 16.5 15.1	Sulfur	ppm	ASTM D5185m	2060	3057	3301	3226
Sodium ppm ASTM D5185m <1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 4 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 5.5 7.7 7.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 16.5 15.1	Silicon	ppm	ASTM D5185m	>25	4	3	2
INFRA-RED	Sodium	ppm	ASTM D5185m		<1	8	6
Soot % % *ASTM D7844 >6 0.1 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 5.5 7.7 7.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 16.5 15.1	Potassium	ppm	ASTM D5185m	>20	2	4	2
Nitration Abs/cm *ASTM D7624 >20 5.5 7.7 7.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 16.5 15.1	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 16.5 15.1	Soot %	%	*ASTM D7844	>6	0.1	0.2	0.3
Sulfation Abs/.1mm *ASTM D7415 >30 18.2 19.4 18.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 16.5 15.1	Nitration	Abs/cm	*ASTM D7624	>20		7.7	7.3
Oxidation Abs/.1mm *ASTM D7414 >25 14.0 16.5 15.1	Sulfation		*ASTM D7415	>30			
	FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.0	16.5	15.1



12

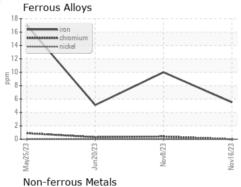
OIL ANALYSIS REPORT

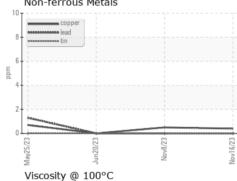


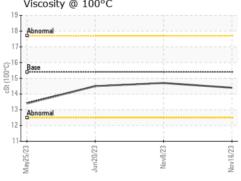
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

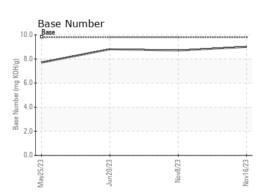
	EHILO	method			riistory i	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	15.4	14.4	14.7	14.5

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10750969

: GFL0101575 : 06011825 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 20 Nov 2023 Diagnosed : 21 Nov 2023

Diagnostician : Wes Davis

GFL Environmental - 415 - Michigan East

6200 Elmridge Sterling Heights, MI US 48313 Contact: Frank Wolak

fwolak@gflenv.com T: (586)825-9514

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)