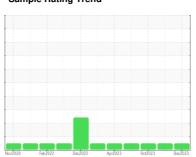


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **921062-260379**

Component

Diesel Engine

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.

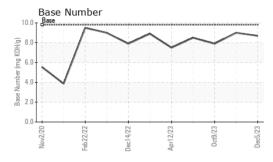
Fluid Condition

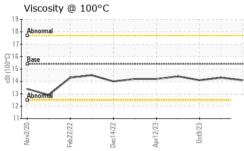
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 history2	GAL)		Nov2020	Feb2022 Dec2022	Apr2023 0ct2023	Dec2023	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date Client Info 05 Dec 2023 30 Oct 2023 09 Oct 2023 Machine Age hrs Client Info 7587 7451 7324 Oil Age hrs Client Info 0 0 0 0 Oil Changed Client Info Not Changd NoRMAL NORMAL NORMAL NORMAL CONTAMINATION method Imitibass current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG NEG NEG WC Method >0.2 1.1 0 <1 nistory2 Iron ppm ASTM 05185m >10.0 5 2 6 Chromium ppm ASTM 05185m >2 1 0 <1 0 <1 0 <1 0 <1 0 <1 <td< th=""><th>Sample Number</th><th></th><th>Client Info</th><th></th><th>GFL0102535</th><th>GFL0098670</th><th>GFL0093720</th></td<>	Sample Number		Client Info		GFL0102535	GFL0098670	GFL0093720
Oil Age hrs Client Info Not Changed N/A Changed Sample Status Client Info NoRMAL			Client Info		05 Dec 2023	30 Oct 2023	09 Oct 2023
Oil Changed Sample Status Client Info MoRMAL Not Change NORMAL NORMAL N/A NORMAL NORMAL Changed NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5.5 <1.0	Machine Age	hrs	Client Info		7587	7451	7324
Sample Status	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	Oil Changed		Client Info		Not Changd	N/A	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method Glycol NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 5 2 6 Chromium ppm ASTM D5185m >20 <1 0 <1 Nickel ppm ASTM D5185m >4 <1 0 0 Sliver ppm ASTM D5185m >4 <1 0 0 Sliver ppm ASTM D5185m >40 0 0 0 Aluminum ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >40 0 0 0 Tin ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m >15 <1 0 <1 Cadmium ppm ASTM D5185m 0 <1 5	CONTAMINAT	ION	method	limit/base	current	history1	history2
Second WC Method NEG NEG NEG	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 5 2 6 Chromium ppm ASTM D5185m >20 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1 0 <1 Nickel ppm ASTM D5185m >4 <1	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	5	2	6
Titanium ppm ASTM D5185m <1 0 <1 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 2 2 2 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 <1	Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Silver	Nickel	ppm	ASTM D5185m	>4	<1	0	0
Aluminum	Titanium	ppm	ASTM D5185m		<1	0	<1
Lead	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >330 -1 0 1 Tin ppm ASTM D5185m >15 -1 0 <1	Aluminum	ppm	ASTM D5185m	>20	2	2	2
Tin ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m <1 0 <1 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 5 10 Barium ppm ASTM D5185m 0 13 0 12 Molybdenum ppm ASTM D5185m 0 58 57 64 Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 905 960 955 Calcium ppm ASTM D5185m 1150 966 1098 975 Zinc ppm ASTM D5185m 1270 1191 1280 1216 Sulfur ppm ASTM D5185m 2060 2993 3185	Lead	ppm	ASTM D5185m	>40	0	0	0
Vanadium ppm ASTM D5185m <1 0 <1 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 5 10 Barium ppm ASTM D5185m 0 13 0 12 Molybdenum ppm ASTM D5185m 0 58 57 64 Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 905 960 955 Calcium ppm ASTM D5185m 1070 986 1051 1039 Phosphorus ppm ASTM D5185m 1270 1191 1280 1216 Sulfur ppm ASTM D5185m 2060 2993 3185 2887 CONTAMINANTS method limit/base current history1	Copper	ppm	ASTM D5185m	>330	<1	0	1
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>15	<1	0	<1
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Vanadium	ppm	ASTM D5185m		<1	0	<1
Boron	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 0 13 0 12 Molybdenum ppm ASTM D5185m 60 58 57 64 Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 905 960 955 Calcium ppm ASTM D5185m 1070 986 1051 1039 Phosphorus ppm ASTM D5185m 1150 966 1098 975 Zinc ppm ASTM D5185m 1270 1191 1280 1216 Sulfur ppm ASTM D5185m 2060 2993 3185 2887 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >20 6 <1 6 INFRA-RED method limit/base<	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 58 57 64 Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 905 960 955 Calcium ppm ASTM D5185m 1070 986 1051 1039 Phosphorus ppm ASTM D5185m 1150 966 1098 975 Zinc ppm ASTM D5185m 1270 1191 1280 1216 Sulfur ppm ASTM D5185m 2060 2993 3185 2887 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >20 6 <1 6 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th><1</th> <td>5</td> <td>10</td>	Boron	ppm	ASTM D5185m	0	<1	5	10
Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 905 960 955 Calcium ppm ASTM D5185m 1070 986 1051 1039 Phosphorus ppm ASTM D5185m 1150 966 1098 975 Zinc ppm ASTM D5185m 1270 1191 1280 1216 Sulfur ppm ASTM D5185m 2060 2993 3185 2887 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >20 6 <1	Barium	ppm	ASTM D5185m	0		0	12
Magnesium ppm ASTM D5185m 1010 905 960 955 Calcium ppm ASTM D5185m 1070 986 1051 1039 Phosphorus ppm ASTM D5185m 1150 966 1098 975 Zinc ppm ASTM D5185m 1270 1191 1280 1216 Sulfur ppm ASTM D5185m 2060 2993 3185 2887 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m 12 5 22 Potassium ppm ASTM D5185m >20 6 <1	Molybdenum	ppm			58	57	
Calcium ppm ASTM D5185m 1070 986 1051 1039 Phosphorus ppm ASTM D5185m 1150 966 1098 975 Zinc ppm ASTM D5185m 1270 1191 1280 1216 Sulfur ppm ASTM D5185m 2060 2993 3185 2887 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >20 6 <1	Manganese	ppm	ASTM D5185m	0	<1	0	<1
Phosphorus ppm ASTM D5185m 1150 966 1098 975 Zinc ppm ASTM D5185m 1270 1191 1280 1216 Sulfur ppm ASTM D5185m 2060 2993 3185 2887 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >20 6 <1		ppm					
Zinc ppm ASTM D5185m 1270 1191 1280 1216 Sulfur ppm ASTM D5185m 2060 2993 3185 2887 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >20 6 <1	Calcium	ppm	ASTM D5185m	1070		1051	1039
Sulfur ppm ASTM D5185m 2060 2993 3185 2887 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >20 6 <1							
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m 12 5 22 Potassium ppm ASTM D5185m >20 6 <1		ppm					
Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m 12 5 22 Potassium ppm ASTM D5185m >20 6 <1 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.2 0.5 Nitration Abs/cm *ASTM D7624 >20 6.0 5.1 6.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.7 18.1 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 13.4 14.0			ASTM D5185m	2060	2993	3185	2887
Sodium ppm ASTM D5185m 12 5 22 Potassium ppm ASTM D5185m >20 6 <1		ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 6 <1 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.2 0.5 Nitration Abs/cm *ASTM D7624 >20 6.0 5.1 6.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.7 18.1 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 13.4 14.0				>25			
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.2 0.5 Nitration Abs/cm *ASTM D7624 >20 6.0 5.1 6.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.7 18.1 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 13.4 14.0		ppm					
Soot % % *ASTM D7844 >3 0.4 0.2 0.5 Nitration Abs/cm *ASTM D7624 >20 6.0 5.1 6.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.7 18.1 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 13.4 14.0	Potassium	ppm	ASTM D5185m	>20	6	<1	6
Nitration Abs/cm *ASTM D7624 >20 6.0 5.1 6.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.7 18.1 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 13.4 14.0	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 18.7 18.1 18.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 13.4 14.0	Soot %	%	*ASTM D7844	>3	0.4		0.5
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.0 13.4 14.0	Nitration	Abs/cm	*ASTM D7624	>20	6.0	5.1	6.8
Oxidation Abs/.1mm *ASTM D7414 >25 14.0 13.4 14.0	Sulfation	Abs/.1mm	*ASTM D7415	>30	18.7	18.1	18.9
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.7 9.0 7.9	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.0	13.4	14.0
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.7	9.0	7.9



OIL ANALYSIS REPORT

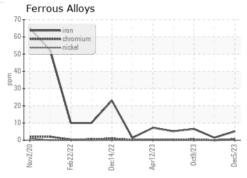


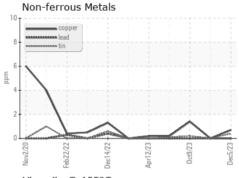


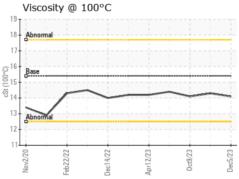
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

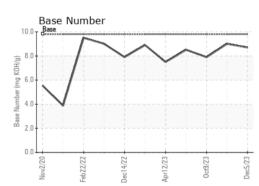
FLUID PROPE	RTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.3	14.1

GRAPHS













Certificate L2367

Laboratory Sample No.

Lab Number Unique Number : 10791830 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0102535 : 06036601

Recieved : 15 Dec 2023 Diagnosed : 18 Dec 2023 Diagnostician : Wes Davis

GFL Environmental - 837 - Harrison TS

22820 S State Route 291 Harrisonville, MO US 64701

Contact: BRYAN SWANSON

bryanswanson@gflenv.com

T: F:

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)

Report Id: GFL837 [WUSCAR] 06036601 (Generated: 12/18/2023 15:19:22) Rev: 1

Submitted By: ?