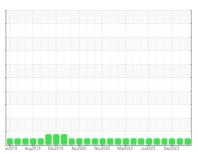


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **928092-260349**

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.

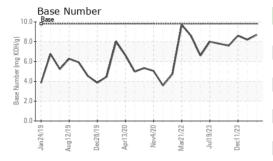
Fluid Condition

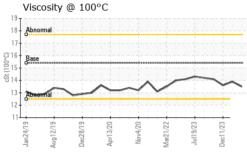
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method fimilibase current history2 Sample Number Client Info GFL0108133 GFL0102471 GFL0102512 Sample Date Client Info 22 Jan 2024 02 Jan 2024 11 Dec 2023 Machine Age hrs Client Info 23832 23697 0 0 0 0 O O O O O O	ARL)		in2019 Aug2	019 Dec2019 Apr2020	Nov2020 Mar2022 Jul2023	Dec2023	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 23832 23697 0 Oil Age hrs Client Info 0 0 0 0 Oil Changed Client Info Not Changd NoRMAL NORMAL NORMAL Sample Status WC Method Image: Control of the property	Sample Number		Client Info		GFL0108133	GFL0102471	GFL0102512
Oil Age hrs Client Info Not Changed Changed Not Changed Not Changed Not Change	Sample Date		Client Info		22 Jan 2024	02 Jan 2024	11 Dec 2023
Oil Changed Cilient Info Not Changed NORMAL NORMAL NORMAL	Machine Age	hrs	Client Info		23832	23697	0
Sample Status	Oil Age	hrs	Client Info		0	0	0
Sample Status			Client Info		Not Changd	Changed	Not Changd
Fuel	-				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 9 10 11 Chromium ppm ASTM D5185m >20 <1 <1 <1 Nickel ppm ASTM D5185m >4 <1 <1 <1 Silver ppm ASTM D5185m >4 <1 <1 0 Silver ppm ASTM D5185m >40 <1 <1 0 Silver ppm ASTM D5185m >20 2 2 2 Lead ppm ASTM D5185m >40 <1 <1 0 Copper ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m 0 3 3	CONTAMINATI	ON	method	limit/base	current	history1	history2
Silycol WC Method MEG 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 9 10 11 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 <1 <1 Nickel ppm ASTM D5185m >4 <1	WEAR METALS	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	9	10	11
Titanium ppm ASTM D5185m <1 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 2 2 2 Lead ppm ASTM D5185m >40 <1 <1 0 Copper ppm ASTM D5185m >33 1 <1 0 Vanadium ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 ADDITIVES method limit/base current history1 pistory2 <	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 2 2 2 Lead ppm ASTM D5185m >40 <1 <1 0 Copper ppm ASTM D5185m >330 1 3 1 Tin ppm ASTM D5185m >15 <1 <1 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 3 3 3 3 Barium ppm ASTM D5185m 0 3 3 3 3 Boron ppm ASTM D5185m 0 0 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Aluminum	Titanium	ppm	ASTM D5185m		<1	0	0
Lead	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >330 1 3 1 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	2	2	2
Tin ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m c1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 3 3 3 Barium ppm ASTM D5185m 0 0 0 <1 Molybdenum ppm ASTM D5185m 0 59 60 59 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 1070 990 1080 1040 Phosphorus ppm ASTM D5185m 1150 907 1157 1129 Zinc ppm ASTM D5185m 1270 1227 1356 1282 Sulfur ppm ASTM D5185m 2060 2946	Lead	ppm	ASTM D5185m	>40	<1	<1	0
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 3 3 3 Barium ppm ASTM D5185m 0 0 0 <1 Molybdenum ppm ASTM D5185m 60 59 60 59 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1070 990 1080 1040 Phosphorus ppm ASTM D5185m 1070 990 1080 1040 Phosphorus ppm ASTM D5185m 1270 1227 1356 1282 Sulfur ppm ASTM D5185m 2060 2946 3279 3139 CONTAMINANTS method limit/base current history1	Copper	ppm	ASTM D5185m	>330	1	3	1
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 3 3 3 Barium ppm ASTM D5185m 0 0 0 <1	Tin	ppm	ASTM D5185m	>15	<1	<1	0
Boron	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 3 3 3 Barium ppm ASTM D5185m 0 0 0 -1 Molybdenum ppm ASTM D5185m 60 59 60 59 Manganese ppm ASTM D5185m 0 -1 -1 -1 Magnesium ppm ASTM D5185m 1010 947 975 957 Calcium ppm ASTM D5185m 1070 990 1080 1040 Phosphorus ppm ASTM D5185m 1150 907 1157 1129 Zinc ppm ASTM D5185m 1270 1227 1356 1282 Sulfur ppm ASTM D5185m 2060 2946 3279 3139 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >225 6 4 4 Sodium ppm ASTM D5185m	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 0 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 59 60 59 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	3	3	3
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 947 975 957 Calcium ppm ASTM D5185m 1070 990 1080 1040 Phosphorus ppm ASTM D5185m 1150 907 1157 1129 Zinc ppm ASTM D5185m 1270 1227 1356 1282 Sulfur ppm ASTM D5185m 2060 2946 3279 3139 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 4 Sodium ppm ASTM D5185m >20 1 <1	Barium	ppm	ASTM D5185m	0	0	0	<1
Magnesium ppm ASTM D5185m 1010 947 975 957 Calcium ppm ASTM D5185m 1070 990 1080 1040 Phosphorus ppm ASTM D5185m 1150 907 1157 1129 Zinc ppm ASTM D5185m 1270 1227 1356 1282 Sulfur ppm ASTM D5185m 2060 2946 3279 3139 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 4 Sodium ppm ASTM D5185m >20 1 <1	Molybdenum	ppm	ASTM D5185m	60	59	60	59
Calcium ppm ASTM D5185m 1070 990 1080 1040 Phosphorus ppm ASTM D5185m 1150 907 1157 1129 Zinc ppm ASTM D5185m 1270 1227 1356 1282 Sulfur ppm ASTM D5185m 2060 2946 3279 3139 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 4 Sodium ppm ASTM D5185m >20 1 <1	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 1150 907 1157 1129 Zinc ppm ASTM D5185m 1270 1227 1356 1282 Sulfur ppm ASTM D5185m 2060 2946 3279 3139 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 4 Sodium ppm ASTM D5185m >20 1 <1	Magnesium	ppm	ASTM D5185m	1010	947	975	957
Zinc ppm ASTM D5185m 1270 1227 1356 1282 Sulfur ppm ASTM D5185m 2060 2946 3279 3139 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 4 Sodium ppm ASTM D5185m >20 1 <1	Calcium	ppm	ASTM D5185m	1070	990	1080	1040
Sulfur ppm ASTM D5185m 2060 2946 3279 3139 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 4 Sodium ppm ASTM D5185m >20 1 <1	Phosphorus	ppm	ASTM D5185m	1150	907	1157	1129
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 4 Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 1 <1	Zinc	ppm	ASTM D5185m	1270	1227	1356	1282
Silicon ppm ASTM D5185m >25 6 4 4 Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 1 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.8 Nitration Abs/cm *ASTM D7624 >20 6.1 8.2 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 20.4 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.7 17.2 15.3	Sulfur	ppm	ASTM D5185m	2060	2946	3279	3139
Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 1 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.8 Nitration Abs/cm *ASTM D7624 >20 6.1 8.2 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 20.4 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.7 17.2 15.3	CONTAMINAN [*]	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.8 Nitration Abs/cm *ASTM D7624 >20 6.1 8.2 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 20.4 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.7 17.2 15.3	Silicon	ppm	ASTM D5185m	>25	6	4	4
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.4 0.3 0.8 Nitration Abs/cm *ASTM D7624 >20 6.1 8.2 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 20.4 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.7 17.2 15.3	Sodium	ppm	ASTM D5185m		0	4	3
Soot % % *ASTM D7844 >3 0.4 0.3 0.8 Nitration Abs/cm *ASTM D7624 >20 6.1 8.2 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 20.4 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.7 17.2 15.3	Potassium	ppm	ASTM D5185m	>20	1	<1	<1
Nitration Abs/cm *ASTM D7624 >20 6.1 8.2 7.0 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 20.4 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.7 17.2 15.3	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 18.4 20.4 19.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.7 17.2 15.3	Soot %	%	*ASTM D7844	>3	0.4	0.3	0.8
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.7 17.2 15.3	Nitration	Abs/cm	*ASTM D7624	>20	6.1	8.2	7.0
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	18.4	20.4	19.5
	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.7 8.2 8.6	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.7	17.2	15.3
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.7	8.2	8.6



OIL ANALYSIS REPORT

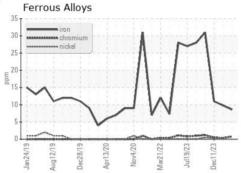


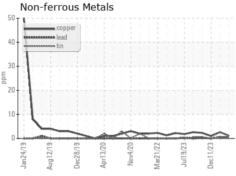


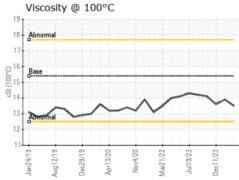
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

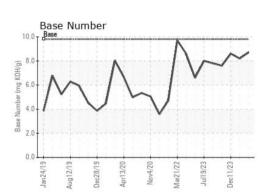
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.9	13.6	

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10860928 Test Package : FLEET

: GFL0108133 : 06078837

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 02 Feb 2024 Diagnosed : 05 Feb 2024 Diagnostician : Wes Davis

22820 S State Route 291 Harrisonville, MO US 64701

GFL Environmental - 837 - Harrison TS

Contact: JOHNNY PEREZ johnny.perez@gflenv.com

T: F:

* - 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)