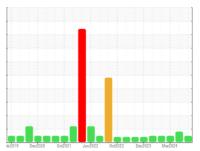


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id 923040-260203

Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

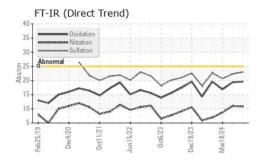
Fluid Condition

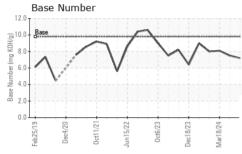
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

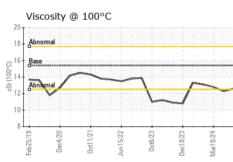
Sample Number Client Info GFL0104814 GFL0104815 GFL0104815 GAL0104815 GAL0104815	#2019 Dec2020 Oct2021 Juni2022 Oct2023 Dec2023 Mer2024						
Sample Date	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 0 21203 18918 Oil Age mis Client Info 0 0 0 0 Oil Changed Client Info N/A Not Changd 20 20 20 20 20 Not Ghard	Sample Number		Client Info		GFL0104834	GFL0104815	GFL0104888
Machine Age mls Client Info 0 21203 18918 Oil Age mis Client Info 0 0 0 0 Oil Changed Client Info N/A Not Changd 20 20 20 20 20 Not Ghard	Sample Date		Client Info		10 May 2024	09 Apr 2024	18 Mar 2024
Oil Changed Client Info N/A Not Changed NoRMAL MARGINAL NORMAL MARGINAL NORMAL	Machine Age	mls	Client Info		0	21203	18918
CONTAMINATION	Oil Age	mls	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2	Oil Changed		Client Info		N/A	Not Changd	Not Changd
Fuel	Sample Status				NORMAL	MARGINAL	NORMAL
Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imitibase Current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 48 42 31 Chromium ppm ASTM D5185m >20 2 <1 <1 Nickel ppm ASTM D5185m >4 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >20 6 2 2 Silver ppm ASTM D5185m >40 2 0 0 Silver ppm ASTM D5185m >40 2 0 0 Copper ppm ASTM D5185m >40 2 0 0 Capper ppm ASTM D5185m >15 <1 0 0 <	CONTAMINAT	ΓΙΟΝ	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<u>^</u> 2.8	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	LS	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	48	42	31
Silver	Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>4	0	0	0
Aluminum ppm ASTM D5185m >20 6 2 2 Lead ppm ASTM D5185m >40 2 0 0 Copper ppm ASTM D5185m >330 2 1 <1	Titanium	ppm	ASTM D5185m		<1	0	0
Lead	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >330 2 1 <1 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	6	2	2
Tin	Lead	ppm	ASTM D5185m	>40	2	0	0
Vanadium	Copper	ppm	ASTM D5185m	>330	2	1	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 1 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 2 0 0 Manganese ppm ASTM D5185m 0 2 0 0 Magnesium ppm ASTM D5185m 1010 895 953 989 Calcium ppm ASTM D5185m 1070 987 1128 1152 Phosphorus ppm ASTM D5185m 1270 1193 1303 1335 Zinc ppm ASTM D5185m 2060 3177 3451 3677 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 20 2 <			ASTM D5185m	>15	<1	0	0
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 56 60 60 Manganese ppm ASTM D5185m 0 2 0 0 Magnesium ppm ASTM D5185m 1010 895 953 989 Calcium ppm ASTM D5185m 1070 987 1128 1152 Phosphorus ppm ASTM D5185m 1150 988 1057 1088 Zinc ppm ASTM D5185m 1270 1193 1303 1335 Sulfur ppm ASTM D5185m 2060 3177 3451 3677 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 6 Sodium ppm ASTM D5185m >20 2 <1	Boron	ppm	ASTM D5185m	0	1	0	0
Manganese ppm ASTM D5185m 0 2 0 0 Magnesium ppm ASTM D5185m 1010 895 953 989 Calcium ppm ASTM D5185m 1070 987 1128 1152 Phosphorus ppm ASTM D5185m 1150 988 1057 1088 Zinc ppm ASTM D5185m 1270 1193 1303 1335 Sulfur ppm ASTM D5185m 2060 3177 3451 3677 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 6 Sodium ppm ASTM D5185m >20 2 <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 895 953 989 Calcium ppm ASTM D5185m 1070 987 1128 1152 Phosphorus ppm ASTM D5185m 1150 988 1057 1088 Zinc ppm ASTM D5185m 1270 1193 1303 1335 Sulfur ppm ASTM D5185m 2060 3177 3451 3677 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 6 Sodium ppm ASTM D5185m >20 2 <1	Molybdenum	ppm	ASTM D5185m	60	56	60	60
Calcium ppm ASTM D5185m 1070 987 1128 1152 Phosphorus ppm ASTM D5185m 1150 988 1057 1088 Zinc ppm ASTM D5185m 1270 1193 1303 1335 Sulfur ppm ASTM D5185m 2060 3177 3451 3677 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 6 Sodium ppm ASTM D5185m >20 2 1 <1	Manganese	ppm	ASTM D5185m	0	2	0	0
Phosphorus ppm ASTM D5185m 1150 988 1057 1088 Zinc ppm ASTM D5185m 1270 1193 1303 1335 Sulfur ppm ASTM D5185m 2060 3177 3451 3677 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 6 Sodium ppm ASTM D5185m >20 2 <1	Magnesium	ppm	ASTM D5185m	1010	895	953	989
Zinc ppm ASTM D5185m 1270 1193 1303 1335 Sulfur ppm ASTM D5185m 2060 3177 3451 3677 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 6 Sodium ppm ASTM D5185m 8 8 5 Potassium ppm ASTM D5185m >20 2 <1	Calcium	ppm	ASTM D5185m	1070	987	1128	1152
Sulfur ppm ASTM D5185m 2060 3177 3451 3677 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 6 Sodium ppm ASTM D5185m >20 8 8 5 Potassium ppm ASTM D5185m >20 2 <1	Phosphorus	ppm	ASTM D5185m	1150	988	1057	1088
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 6 Sodium ppm ASTM D5185m 8 8 5 Potassium ppm ASTM D5185m >20 2 <1	Zinc	ppm	ASTM D5185m	1270	1193	1303	1335
Silicon ppm ASTM D5185m >25 9 7 6 Sodium ppm ASTM D5185m 8 8 5 Potassium ppm ASTM D5185m >20 2 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.2 1.1 0.8 Nitration Abs/cm *ASTM D7624 >20 10.8 11.0 8.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 22.3 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.4 16.9	Sulfur	ppm	ASTM D5185m	2060	3177	3451	3677
Sodium ppm ASTM D5185m 8 8 5 Potassium ppm ASTM D5185m >20 2 <1	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 <1 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.2 1.1 0.8 Nitration Abs/cm *ASTM D7624 >20 10.8 11.0 8.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 22.3 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.4 16.9	Silicon	ppm	ASTM D5185m	>25	9	7	6
INFRA-RED	Sodium	ppm	ASTM D5185m		8	8	5
Soot % *ASTM D7844 >3 1.2 1.1 0.8 Nitration Abs/cm *ASTM D7624 >20 10.8 11.0 8.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 22.3 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.4 16.9	Potassium	ppm	ASTM D5185m	>20	2	<1	<1
Nitration Abs/cm *ASTM D7624 >20 10.8 11.0 8.7 Sulfation Abs/.1mm *ASTM D7415 >30 23.0 22.3 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.4 16.9	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 23.0 22.3 20.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.4 16.9	Soot %	%	*ASTM D7844	>3	1.2	1.1	0.8
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.4 16.9	Nitration	Abs/cm	*ASTM D7624	>20	10.8	11.0	8.7
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.0	22.3	20.7
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	19.6	19.4	16.9
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8		7.5	8.1



OIL ANALYSIS REPORT



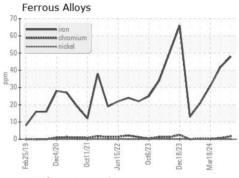


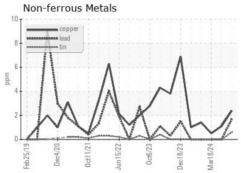


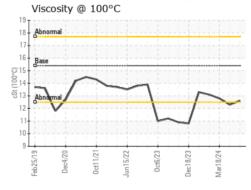
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

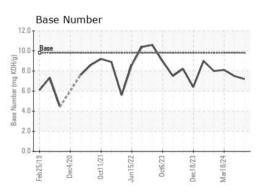
FLUID PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.6	12.3	12.8

GRAPHS













Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0104834 Lab Number : 06193779 Unique Number : 11055902

Received **Tested** Diagnosed

: 29 May 2024 : 30 May 2024 : 30 May 2024 - Wes Davis

3700 West 7th Street

GFL Environmental - 820 - Joplin Hauling

Joplin, MO US 64801

Contact: James Jarrett jjarrett@gflenv.com T: (417)310-2802

Test Package : FLEET Certificate 12367 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)