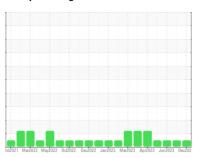


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



741006-310097

Component

Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the

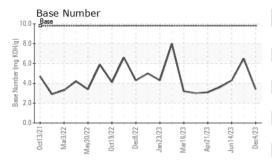
Fluid Condition

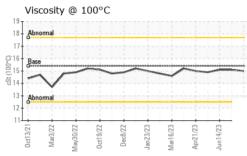
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method imitibase current history1 Sample Number Client Info OJ Dec 2023 3 Sep 2023 14 Jun 2023	Inchaz I Mardozz Mandozz Onchaz Dechaz Dechaz Apridoza Mardoza Apridoza Junidoza Dechaz						
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 600 10 0 Oil Age hrs Client Info 600 0 0 Oil Changed Client Info 600 0 0 Sample Status Image: Changed NoRMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method Imitibase current history1 history2 Fuel WC Method >5 <1.0	Sample Number		Client Info		GFL0092012	GFL0084612	GFL0084715
Oil Age hrs Client Info 600 0 0 Oil Changed NoRMAL NO	Sample Date		Client Info		04 Dec 2023	13 Sep 2023	14 Jun 2023
Oil Changed Sample Status Client Info Changed NORMAL Changed NoRMAN Changed NoRMAN Changed NoRMAN Changed NoRMAN Change NoRMAN Change NoRMAN Change NoRMAN Change NoRMAN Changed NoRMAN Change NoRMAN Change NoRMAN Change NoRMAN Change NoRMAN Change NoRMAN Change N	Machine Age	hrs	Client Info		8926	106895	0
Sample Status Morman Norman Norman Norman CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >110 8 9 20 Chromium ppm ASTM D5185m >10 0 0 1 Nickel ppm ASTM D5185m >2 <1 0 1 Silver ppm ASTM D5185m >2 0 0 <1 Silver ppm ASTM D5185m >25 2 0 0 Aluminum ppm ASTM D5185m >25 2 0 4 Lead ppm ASTM D5185m >25 1 0 2 Copper ppm	Oil Age	hrs	Client Info		600	0	0
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	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 >110 8 9 20 Chromium ppm ASTM D5185m >4 <1 <1 2 Nickel ppm ASTM D5185m >2 <1 0 1 Silver ppm ASTM D5185m >2 <1 0 <1 Silver ppm ASTM D5185m >2 0 0 <1 Silver ppm ASTM D5185m >25 2 0 4 Lead ppm ASTM D5185m >25 2 0 4 Copper ppm ASTM D5185m >4 <1 0 2 Vanadium ppm ASTM D5185m 0 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0	CONTAMINAT	ION	method	limit/base	current	history1	history2
Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >110 8 9 20 Chromium ppm ASTM D5185m >4 <1	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >110 8 9 20 Chromium ppm ASTM D5185m >4 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >4 <1 <1 2 Nickel ppm ASTM D5185m >2 <1 0 1 Titanium ppm ASTM D5185m >2 <1 0 <1 Silver ppm ASTM D5185m >2 2 0 0 0 Aluminum ppm ASTM D5185m >2 2 0 4 4 Lead ppm ASTM D5185m >45 <1 0 21 2 0 4 4 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 2 1 1 0<	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>110	8	9	20
Titanium ppm ASTM D5185m 0 0 <1 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >25 2 0 4 Lead ppm ASTM D5185m >45 <1	Chromium	ppm	ASTM D5185m	>4	<1	<1	2
Silver	Nickel	ppm	ASTM D5185m	>2	<1	0	1
Aluminum ppm ASTM D5185m >25 2 0 4 Lead ppm ASTM D5185m >45 <1	Titanium	ppm	ASTM D5185m		0	0	<1
Lead ppm ASTM D5185m >45 <1 0 21 Copper ppm ASTM D5185m >85 <1 0 2 Tin ppm ASTM D5185m >4 <1 0 2 Vanadium ppm ASTM D5185m 0 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 5 18 14 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 0 Magnesium ppm ASTM D5185m 1010 6	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >85 <1 0 2 Tin ppm ASTM D5185m >4 <1	Aluminum	ppm	ASTM D5185m	>25	2	0	4
Tin ppm ASTM D5185m >4 <1 0 2 Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 5 18 14 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 <1	Lead	ppm	ASTM D5185m	>45	<1	0	21
Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 5 18 14 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 <1 1 Magnesium ppm ASTM D5185m 1010 682 629 726 Calcium ppm ASTM D5185m 1070 1494 1678 2073 Phosphorus ppm ASTM D5185m 1270 1151 969 1158 Sulfur ppm ASTM D5185m 2060 2644 2916 3164 CONTAMINANTS method limit/base current history1	Copper	ppm	ASTM D5185m	>85	<1	0	2
Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 5 18 14 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 <1	Tin	ppm	ASTM D5185m	>4	<1	0	2
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	<1
Boron ppm ASTM D5185m 0 5 18 14 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 54 53 66 Manganese ppm ASTM D5185m 0 0 <1 1 Magnesium ppm ASTM D5185m 1010 682 629 726 Calcium ppm ASTM D5185m 1070 1494 1678 2073 Phosphorus ppm ASTM D5185m 1270 1151 969 1158 Sulfur ppm ASTM D5185m 2060 2644 2916 3164 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m >20 0 0 <1 INFRA-RED method limit/base curre	Cadmium	ppm	ASTM D5185m		0	0	<1
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 54 53 66 Manganese ppm ASTM D5185m 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 54 53 66 Manganese ppm ASTM D5185m 0 0 <1 1 Magnesium ppm ASTM D5185m 1010 682 629 726 Calcium ppm ASTM D5185m 1070 1494 1678 2073 Phosphorus ppm ASTM D5185m 1150 780 721 914 Zinc ppm ASTM D5185m 1270 1151 969 1158 Sulfur ppm ASTM D5185m 2060 2644 2916 3164 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m >20 0 0 <1	Boron	ppm	ASTM D5185m	0	5	18	14
Manganese ppm ASTM D5185m 0 0 <1 1 Magnesium ppm ASTM D5185m 1010 682 629 726 Calcium ppm ASTM D5185m 1070 1494 1678 2073 Phosphorus ppm ASTM D5185m 1150 780 721 914 Zinc ppm ASTM D5185m 1270 1151 969 1158 Sulfur ppm ASTM D5185m 2060 2644 2916 3164 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m >20 0 0 <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 682 629 726 Calcium ppm ASTM D5185m 1070 1494 1678 2073 Phosphorus ppm ASTM D5185m 1150 780 721 914 Zinc ppm ASTM D5185m 1270 1151 969 1158 Sulfur ppm ASTM D5185m 2060 2644 2916 3164 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m >20 0 0 <1	Molybdenum	ppm	ASTM D5185m	60	54	53	66
Calcium ppm ASTM D5185m 1070 1494 1678 2073 Phosphorus ppm ASTM D5185m 1150 780 721 914 Zinc ppm ASTM D5185m 1270 1151 969 1158 Sulfur ppm ASTM D5185m 2060 2644 2916 3164 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m >20 0 0 <1	Manganese	ppm		0	0	<1	1
Phosphorus ppm ASTM D5185m 1150 780 721 914 Zinc ppm ASTM D5185m 1270 1151 969 1158 Sulfur ppm ASTM D5185m 2060 2644 2916 3164 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m >20 0 0 <1	Magnesium	ppm	ASTM D5185m	1010	682	629	726
Zinc ppm ASTM D5185m 1270 1151 969 1158 Sulfur ppm ASTM D5185m 2060 2644 2916 3164 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m >30 6 6 10 Potassium ppm ASTM D5185m >20 0 0 <1	Calcium	ppm	ASTM D5185m	1070	1494	1678	2073
Sulfur ppm ASTM D5185m 2060 2644 2916 3164 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m 6 6 10 Potassium ppm ASTM D5185m >20 0 0 <1	Phosphorus	ppm		1150	780		914
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m 6 6 10 Potassium ppm ASTM D5185m >20 0 0 <1	Zinc	ppm	ASTM D5185m	1270	1151	969	1158
Silicon ppm ASTM D5185m >30 4 5 7 Sodium ppm ASTM D5185m 6 6 10 Potassium ppm ASTM D5185m >20 0 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 11.9 9.6 12.8 Sulfation Abs/.1mm *ASTM D7415 >30 24.2 20.2 29.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.7 17.2 25.0	Sulfur	ppm	ASTM D5185m	2060	2644	2916	3164
Sodium ppm ASTM D5185m 6 6 10 Potassium ppm ASTM D5185m >20 0 0 <1	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 11.9 9.6 12.8 Sulfation Abs/.1mm *ASTM D7415 >30 24.2 20.2 29.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.7 17.2 25.0	Silicon	ppm	ASTM D5185m	>30	4	5	7
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 11.9 9.6 12.8 Sulfation Abs/.1mm *ASTM D7415 >30 24.2 20.2 29.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.7 17.2 25.0	Sodium	ppm	ASTM D5185m		6	6	10
Soot % % *ASTM D7844 >3 0 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 11.9 9.6 12.8 Sulfation Abs/.1mm *ASTM D7415 >30 24.2 20.2 29.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.7 17.2 25.0	Potassium	ppm	ASTM D5185m	>20	0	0	<1
Nitration Abs/cm *ASTM D7624 >20 11.9 9.6 12.8 Sulfation Abs/.1mm *ASTM D7415 >30 24.2 20.2 29.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.7 17.2 25.0	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 24.2 20.2 29.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.7 17.2 25.0	Soot %	%	*ASTM D7844	>3	0	0.1	0.1
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.7 17.2 25.0	Nitration	Abs/cm	*ASTM D7624	>20	11.9	9.6	12.8
Oxidation Abs/.1mm *ASTM D7414 >25 20.7 17.2 25.0	Sulfation	Abs/.1mm	*ASTM D7415	>30	24.2	20.2	29.9
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 3.4 6.5 4.3	Oxidation	Abs/.1mm	*ASTM D7414	>25	20.7	17.2	25.0
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	3.4	6.5	4.3



OIL ANALYSIS REPORT

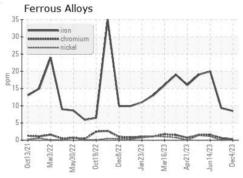


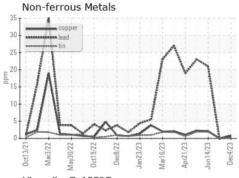


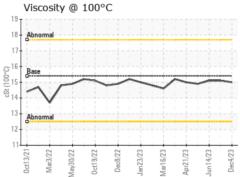
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

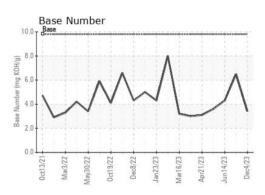
FLUID PROPE	RHES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	15.0	15.1	15.1

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

Test Package : FLEET

: GFL0092012 : 06027074 : 10776865

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received Diagnosed

: 06 Dec 2023 : 08 Dec 2023 Diagnostician : Wes Davis

GFL Environmental - 856 - Houston South

8515 Highway 6 South Houston, TX US 77083

Contact: Apolinar Zacarias pzacariascano@gflenv.com

* - 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)

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F: