

OIL ANALYSIS REPORT

Sample Rating Trend

Dec2022 Dec2022 Mec2023 April 023 April 023 April 023 Oct 023 Oct 023

NORMAL



741003-310092

Component

Natural Gas 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.

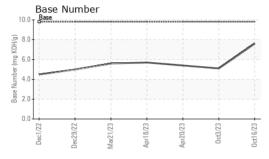
Fluid Condition

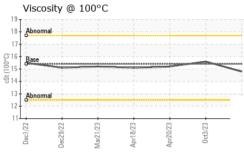
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method Imilibase current history1 history2	GAL)		Dec2022	Dec2022 Mar2023	Apr2023 Apr2023 Oct2023	0ct2023	
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age kms Client Info 0 0 133185 Oil Age kms Client Info 0 0 0 0 Oil Changed Client Info Changed Changed NoRMAL NORMAL Sample Status Image: Client Info Changed Changed NoRMAL NORMAL WEARM ETALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 7 30 20 Chromium ppm ASTM D5185m >4 <1	Sample Number		Client Info		GFL0084661	GFL0084662	GFL0078102
Oil Age kms Client Info Changed Changed Changed Not Changed Oil Changed Sample Status Client Info Changed Changed Not Changed Not Changed WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 7 30 20 Chromium ppm ASTM D5185m >4 -1 3 2 Nickel ppm ASTM D5185m >3 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Sliver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >30 <1	Sample Date		Client Info		16 Oct 2023	03 Oct 2023	20 Apr 2023
Oil Changed Sample Status	Machine Age	kms	Client Info		0	0	133185
NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2	Oil Age	kms	Client Info		0	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 7 30 20 Chromium ppm ASTM D5185m >4 <1	Oil Changed		Client Info		Changed	Changed	Not Changd
Iron	Sample Status				NORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185m >4 <1 3 2 Nickel ppm ASTM D5185m >2 0 1 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	7	30	20
Titanium	Chromium	ppm	ASTM D5185m	>4	<1	3	2
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >9 2 7 2 Lead ppm ASTM D5185m >30 <1 2 1 Copper ppm ASTM D5185m >35 <1 2 1 Tin ppm ASTM D5185m >4 0 <1 <1 Vanadium ppm ASTM D5185m >4 0 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 36 18 17 Boron ppm ASTM D5185m 0 36 18 17 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 1 1 Magnesium ppm ASTM D5185m 1010 607 779 <	Nickel	ppm	ASTM D5185m	>2	0	1	<1
Aluminum	Titanium	ppm	ASTM D5185m		<1	<1	<1
Lead	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >35 <1 2 1 Tin ppm ASTM D5185m >4 0 <1	Aluminum	ppm	ASTM D5185m	>9	2	7	2
Tin ppm ASTM D5185m >4 0 <1 <1 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 36 18 17 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 <1 1 1 Magnesium ppm ASTM D5185m 1070 1748 2160 2029 Phosphorus ppm ASTM D5185m 1150 811 1074 964 Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m 2060 2533 3180 26	Lead	ppm	ASTM D5185m	>30	<1	2	1
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 36 18 17 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 41 1 1 Magnesium ppm ASTM D5185m 1010 607 779 713 Calcium ppm ASTM D5185m 1070 1748 2160 2029 Phosphorus ppm ASTM D5185m 1150 811 1074 964 Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m >2060 2533 3180 2684 CONTAMINANTS method limit/base current <	Copper	ppm	ASTM D5185m	>35	<1	2	1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 36 18 17 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 -1 1 1 Magnaese ppm ASTM D5185m 0 -1 1 1 Magnesium ppm ASTM D5185m 1010 607 779 713 Calcium ppm ASTM D5185m 1070 1748 2160 2029 Phosphorus ppm ASTM D5185m 1150 811 1074 964 Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m >+100 3 <	Tin	ppm	ASTM D5185m	>4	0	<1	<1
Radio	Vanadium	ppm	ASTM D5185m		<1	0	0
Boron ppm ASTM D5185m 0 36 18 17 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 53 78 68 Manganese ppm ASTM D5185m 0 <1 1 1 Magnesium ppm ASTM D5185m 1010 607 779 713 Calcium ppm ASTM D5185m 1070 1748 2160 2029 Phosphorus ppm ASTM D5185m 1150 811 1074 964 Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m 2060 2533 3180 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m >	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 53 78 68 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 53 78 68 Manganese ppm ASTM D5185m 0 <1 1 1 Magnesium ppm ASTM D5185m 1010 607 779 713 Calcium ppm ASTM D5185m 1070 1748 2160 2029 Phosphorus ppm ASTM D5185m 1150 811 1074 964 Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m 2060 2533 3180 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 0 <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th>36</th> <td>18</td> <td>17</td>	Boron	ppm	ASTM D5185m	0	36	18	17
Manganese ppm ASTM D5185m 0 <1 1 1 Magnesium ppm ASTM D5185m 1010 607 779 713 Calcium ppm ASTM D5185m 1070 1748 2160 2029 Phosphorus ppm ASTM D5185m 1150 811 1074 964 Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m 2060 2533 3180 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m >5 9 8 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 607 779 713 Calcium ppm ASTM D5185m 1070 1748 2160 2029 Phosphorus ppm ASTM D5185m 1150 811 1074 964 Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m 2060 2533 3180 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m 5 9 8 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/:mm "ASTM D7415 >30	Molybdenum	ppm	ASTM D5185m	60	53	78	68
Calcium ppm ASTM D5185m 1070 1748 2160 2029 Phosphorus ppm ASTM D5185m 1150 811 1074 964 Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m 2060 2533 3180 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0 Nitration Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/	Manganese	ppm	ASTM D5185m	0	<1	1	1
Phosphorus ppm ASTM D5185m 1150 811 1074 964 Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m 2060 2533 3180 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m >5 9 8 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>1010</td> <th>607</th> <td>779</td> <td>713</td>	Magnesium	ppm	ASTM D5185m	1010	607	779	713
Zinc ppm ASTM D5185m 1270 1020 1307 1214 Sulfur ppm ASTM D5185m 2060 2533 3180 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m 5 9 8 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0 Nitration Abs/cm *ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414	Calcium	ppm	ASTM D5185m	1070	1748	2160	2029
Sulfur ppm ASTM D5185m 2060 2533 3180 2684 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0 Nitration Abs/cm *ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	Phosphorus	ppm	ASTM D5185m	1150	811	1074	964
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m 5 9 8 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0 Nitration Abs/cm *ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	Zinc	ppm	ASTM D5185m	1270	1020	1307	1214
Silicon ppm ASTM D5185m >+100 3 8 7 Sodium ppm ASTM D5185m 5 9 8 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0 Nitration Abs/cm *ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	Sulfur	ppm	ASTM D5185m	2060	2533	3180	2684
Sodium ppm ASTM D5185m 5 9 8 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0.1 0 Nitration Abs/cm *ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	CONTAMINAN	ITS	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 0 0.1 0 Nitration Abs/cm *ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	Silicon	ppm	ASTM D5185m	>+100	3	8	7
INFRA-RED	Sodium	ppm	ASTM D5185m		5	9	8
Soot % % *ASTM D7844 0 0.1 0 Nitration Abs/cm *ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	Potassium	ppm	ASTM D5185m	>20	2	1	1
Nitration Abs/cm *ASTM D7624 >20 7.7 12.6 11.7 Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 19.8 28.7 26.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	Soot %	%	*ASTM D7844		0	0.1	0
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	Nitration	Abs/cm	*ASTM D7624	>20	7.7	12.6	11.7
Oxidation Abs/.1mm *ASTM D7414 >25 16.6 24.0 21.4	Sulfation	Abs/.1mm	*ASTM D7415	>30	19.8	28.7	26.5
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 7.6 5.1 5.4	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.6	24.0	21.4
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.6	5.1	5.4



OIL ANALYSIS REPORT

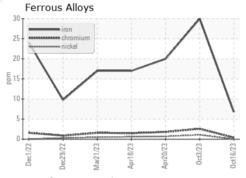


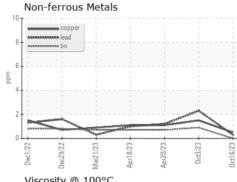


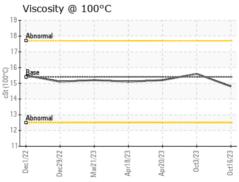
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

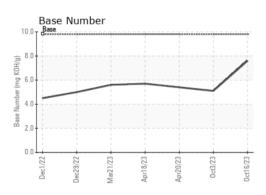
FLUID PROPE	RHES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	14.8	15.6	15.2

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0084661 : 05985327 Unique Number : 10702622

Received

Diagnosed Diagnostician : Don Baldridge

: 20 Oct 2023 : 24 Oct 2023 GFL Environmental - 856 - Houston South

8515 Highway 6 South Houston, TX US 77083

Contact: Gino Griego

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)

T:

F: