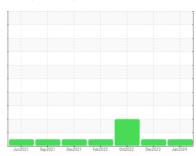


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id 361M 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

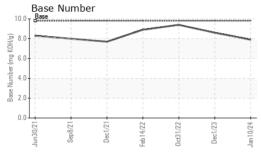
Fluid Condition

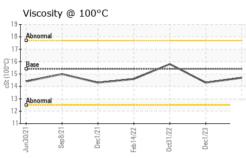
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Client Info GFL0108725 GFL010813 GFL002731 GFL00273 GFL00273 GFL00273 GFL00273 GFL012023 GFL012023 GFL012023 GFL012023 GFL012023 GFL002733 GFL012023 GFL002023 GFL002023	GAL)		Jun2021	Sep2021 Dec2021	Feb 2022 Oct2022 Dec2023	Jan2024	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 17898 17622 15559 14608 Oil Age hrs Client Info 17622 15559 14608 Oil Changed Changed Changed Changed Changed Sample Status NORMAL NORMAL NORMAL ABNORMAL CONTAMINATION method Imilitibase current history1 history2 Fuel WC Method >5 <1.0	Sample Number		Client Info		GFL0108725	GFL0101513	GFL0057317
Oil Age hrs Client Info 17622 15559 14608 Oil Changed ABNORMAL CONTAMINATION method limit/base current history1 history2 Fruel WC Method >5 <1.0	Sample Date		Client Info		10 Jan 2024	01 Dec 2023	31 Oct 2022
Oil Changed Sample Status Client Info Changed NORMAL NORMAL NORMAL ABNORMAL ABNORMAL ABNORMAL NORMAL NORMAL ABNORMAL ABNORMAL NORMAL ABNORMAL OCONTAMINATION Imitibase current inistory1 history2 Fuel WC Method S5	Machine Age	hrs	Client Info		17898	17622	15559
NORMAL NORMAL ABNORMAL CONTAMINATION method imit/base current history1 history2	Oil Age	hrs	Client Info		17622	15559	14608
CONTAMINATION method limit/base 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 NEG NEG NEG 0.0 O WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >10.0 48 22 42 Chromium ppm ASTM D5185m >20 1 <1 2 Nickel ppm ASTM D5185m >3 0 0 0 Nickel ppm ASTM D5185m >3 0 0 0 Itanium ppm ASTM D5185m >30 0 0 0 Copper ppm ASTM D5185m >40 <1 0 <1 Tin ppm ASTM D5185m >330 <1	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	ABNORMAL
Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imit/base current history1 history2 Iron ppm ASTM D5185m >100 48 22 42 Chromium ppm ASTM D5185m >20 1 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	0.0
Chromium	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >4 0 0 <1 Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 2 1 7 Lead ppm ASTM D5185m >40 <1	Iron	ppm	ASTM D5185m	>100	48	22	42
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 2 1 7 Lead ppm ASTM D5185m >30 <1	Chromium	ppm	ASTM D5185m	>20	1	<1	2
Stilver	Nickel	ppm	ASTM D5185m	>4	0	0	<1
Aluminum ppm ASTM D5185m >20 2 1 7 Lead ppm ASTM D5185m >40 <1	Titanium	ppm	ASTM D5185m		0	0	0
Lead ppm ASTM D5185m >40 <1 0 <1 Copper ppm ASTM D5185m >330 <1 1 1 Tin ppm ASTM D5185m >15 0 0 <1 Antimony ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Boron ppm ASTM D5185m 0 1 1 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 <1 1 6 Magnesium ppm ASTM D5185m 1070 1389 1219 1058 Phosphorus ppm ASTM D5185m	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >330 <1 1 1 Tin ppm ASTM D5185m >15 0 0 <1	Aluminum	ppm	ASTM D5185m	>20	2	1	7
Tin ppm ASTM D5185m >15 0 0 <1 -1 Antimony ppm ASTM D5185m	Lead	ppm	ASTM D5185m	>40	<1	0	<1
Antimony ppm ASTM D5185m	Copper	ppm	ASTM D5185m	>330	<1	1	1
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 1 1 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 <1 Magnesium ppm ASTM D5185m 1070 1389 1219 1058 Phosphorus ppm ASTM D5185m 1150 1208 884 961 Zinc ppm ASTM D5185m 1270 1560 1320 1199 Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1	Tin	ppm	ASTM D5185m	>15	0	0	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 1 1 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 1010 1206 1065 881 Calcium ppm ASTM D5185m 1070 1389 1219 1058 Phosphorus ppm ASTM D5185m 1270 1560 1320 1199 Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5	Antimony	ppm	ASTM D5185m				
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 1 1 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 72 62 64 Manganese ppm ASTM D5185m 0 0 0 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 1 1 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 72 62 64 Manganese ppm ASTM D5185m 0 0 0 0 <1 Magnesium ppm ASTM D5185m 1010 1206 1065 881 Calcium ppm ASTM D5185m 1070 1389 1219 1058 Phosphorus ppm ASTM D5185m 1150 1208 884 961 Zinc ppm ASTM D5185m 1270 1560 1320 1199 Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m </td <th>Cadmium</th> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>0</td> <td>0</td>	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 72 62 64 Manganese ppm ASTM D5185m 0 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 72 62 64 Manganese ppm ASTM D5185m 0 0 0 <1 Magnesium ppm ASTM D5185m 1010 1206 1065 881 Calcium ppm ASTM D5185m 1070 1389 1219 1058 Phosphorus ppm ASTM D5185m 1150 1208 884 961 Zinc ppm ASTM D5185m 1270 1560 1320 1199 Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 </td <th>Boron</th> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th>1</th> <td>1</td> <td>6</td>	Boron	ppm	ASTM D5185m	0	1	1	6
Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 1010 1206 1065 881 Calcium ppm ASTM D5185m 1070 1389 1219 1058 Phosphorus ppm ASTM D5185m 1150 1208 884 961 Zinc ppm ASTM D5185m 1270 1560 1320 1199 Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m 7 5 △ 232 Potassium ppm ASTM D5185m 7 5 △ 232 Potassium ppm ASTM D5185m >20 0 5 INFRA-RED method limit/base current history1 hi	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 1206 1065 881 Calcium ppm ASTM D5185m 1070 1389 1219 1058 Phosphorus ppm ASTM D5185m 1150 1208 884 961 Zinc ppm ASTM D5185m 1270 1560 1320 1199 Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 3.7 Nitration Abs/:nm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION *ASTM D7414<	Molybdenum	ppm	ASTM D5185m	60	72	62	64
Calcium ppm ASTM D5185m 1070 1389 1219 1058 Phosphorus ppm ASTM D5185m 1150 1208 884 961 Zinc ppm ASTM D5185m 1270 1560 1320 1199 Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 3.7 Nitration Abs/:nm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/:nm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION <	Manganese	ppm	ASTM D5185m	0	0	0	<1
Phosphorus ppm ASTM D5185m 1150 1208 884 961 Zinc ppm ASTM D5185m 1270 1560 1320 1199 Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m 7 5 ▲ 232 Potassium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 ▲ 3.7 Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION *ASTM D7414	Magnesium	ppm	ASTM D5185m	1010	1206	1065	881
Zinc ppm ASTM D5185m 1270 1560 1320 1199 Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m 7 5 ▲ 232 Potassium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 ▲ 3.7 Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *A	Calcium	ppm	ASTM D5185m	1070	1389	1219	1058
Sulfur ppm ASTM D5185m 2060 3123 2764 3032 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m 7 5 ▲ 232 Potassium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 ▲ 3.7 Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	Phosphorus	ppm	ASTM D5185m	1150	1208	884	961
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m 7 5 ▲ 232 Potassium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 ▲ 3.7 Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	Zinc	ppm	ASTM D5185m	1270	1560	1320	1199
Silicon ppm ASTM D5185m >25 5 3 8 Sodium ppm ASTM D5185m 7 5 ▲ 232 Potassium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 ▲ 3.7 Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	Sulfur	ppm	ASTM D5185m	2060	3123	2764	3032
Sodium ppm ASTM D5185m 7 5 ▲ 232 Potassium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 ▲ 3.7 Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 0 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 ▲ 3.7 Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	Silicon	ppm	ASTM D5185m	>25		3	8
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.6 ▲ 3.7 Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	Sodium	ppm	ASTM D5185m		7	5	▲ 232
Soot % % *ASTM D7844 >3 1 0.6 ▲ 3.7 Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	Potassium	ppm	ASTM D5185m	>20	0	0	5
Nitration Abs/cm *ASTM D7624 >20 10.4 8.5 15.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 23.6 21.1 31.0 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	Soot %		*ASTM D7844	>3		0.6	
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	Nitration	Abs/cm	*ASTM D7624	>20	10.4	8.5	15.1
Oxidation Abs/.1mm *ASTM D7414 >25 20.9 16.8 20.2	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.6	21.1	31.0
	FLUID DEGRAI	NOITAC	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 7.9 8.6 9.4	Oxidation	Abs/.1mm	*ASTM D7414	>25	20.9	16.8	20.2
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.9	8.6	9.4



OIL ANALYSIS REPORT

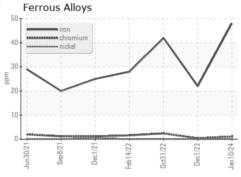


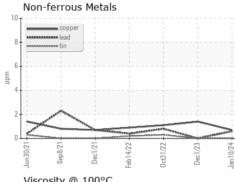


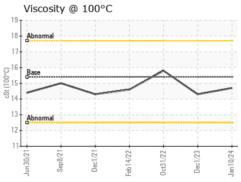
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

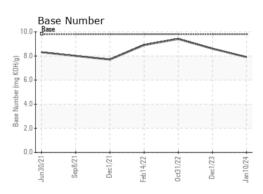
FLUID PROP	EKIIES	method	ilmit/base		nistory i	nistoryz
Visc @ 100°C	cSt	ASTM D445	15.4	14.7	14.3	15.8

GRAPHS











Certificate L2367

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

: GFL0108725 : 06059030 : 10830412 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 12 Jan 2024 Diagnosed : 12 Jan 2024

Diagnostician : Wes Davis

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

6200 Elmridge Sterling Heights, MI US 48313 Contact: Frank Wolak

GFL Environmental - 415 - Michigan East

fwolak@gflenv.com T: (586)825-9514

* - 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)