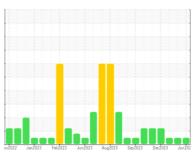


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id
723008
Component
Diesel Engine
Fluid

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.

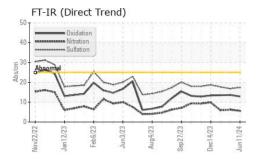
Fluid Condition

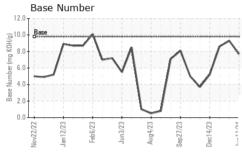
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

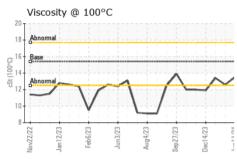
Sample Date Client Info 11 Jun 2024 16 Apr 2024 31 Jan 2024 Machine Age hrs Client Info 191 181 88 Not Change Nr Client Info Not Change Nr Nor Change Nor Cha	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Date Client Info 11 Jun 2024 16 Apr 2024 31 Jan 2024 Machine Age hrs Client Info 191 181 88 Not Change Nr Client Info Not Change Nr Nor Change Nor Cha	Sample Number		Client Info		GFL0121375	GFL0113735	GFL0111097
Machine Age hrs Client Info 191 181 88 181 181 88 181 18			Client Info		11 Jun 2024	16 Apr 2024	31 Jan 2024
Dil Changed	Machine Age	hrs	Client Info		23224		23121
Oil Changed Cilient Info Nort Changed N/A NORMAL NORMAL NORMAL		hrs	Client Info		191	181	88
NORMAL NORMAL NORMAL	-		Client Info		Not Changd	N/A	N/A
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >3.0 <1.0 <1.0 1.5 Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imativase NEG NEG NEG WEAR METALS method limit/base current history1 history2 Idon ppm ASTM D5185m >120 3 16 23 Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >20 2 4 5 Lead ppm ASTM D5185m >300 3 3 4 Copper ppm ASTM D5185m >15 0 <1 <1 <t< th=""><th>-</th><th></th><th></th><th></th><th></th><th>NORMAL</th><th>NORMAL</th></t<>	-					NORMAL	NORMAL
Fuel		ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel					•	
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >5 0 0 0 Titianium ppm ASTM D5185m >2 0 0 -1 Siliver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >40 0 <1 0 Lead ppm ASTM D5185m >40 0 <1 0 Copper ppm ASTM D5185m >15 0 <1 <1 Vanadium ppm ASTM D5185m 0 <1 <1 <1 Vanadium ppm ASTM D5185m 0 24 8 21 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 2 7	Iron	ppm	ASTM D5185m	>120	3	16	23
Silver	Chromium		ASTM D5185m	>20	0	0	0
Silver	Nickel	ppm	ASTM D5185m	>5	0	0	0
Silver	Titanium		ASTM D5185m	>2	0	0	<1
Lead	Silver		ASTM D5185m	>2	0	0	0
Lead	Aluminum	ppm	ASTM D5185m	>20	2	4	5
Tin	Lead		ASTM D5185m	>40	0	<1	0
Trin	Copper	ppm	ASTM D5185m	>330	3	3	4
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 24 8 21 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 72 70 87 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 878 886 888 Calcium ppm ASTM D5185m 1070 1240 1044 1022 Phosphorus ppm ASTM D5185m 1270 1179 1136 1174 Sulfur ppm ASTM D5185m 2060 3496 3532 3063 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 </th <th>Tin</th> <th></th> <th>ASTM D5185m</th> <th>>15</th> <th>0</th> <th><1</th> <th><1</th>	Tin		ASTM D5185m	>15	0	<1	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	<1	<1
Boron ppm ASTM D5185m 0 0 0 0 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 72 70 87 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	24	8	21
Manganese ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 878 886 888 Calcium ppm ASTM D5185m 1070 1240 1044 1022 Phosphorus ppm ASTM D5185m 1150 996 1005 1012 Zinc ppm ASTM D5185m 1270 1179 1136 1174 Sulfur ppm ASTM D5185m 2060 3496 3532 3063 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 3 Sodium ppm ASTM D5185m >20 4 1 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/cm *ASTM D7845 >20 5.6 6.2 5.9 Sulfation Abs/.1mm <t< th=""><th>Molybdenum</th><th>ppm</th><th>ASTM D5185m</th><th>60</th><th>72</th><th>70</th><th>87</th></t<>	Molybdenum	ppm	ASTM D5185m	60	72	70	87
Calcium ppm ASTM D5185m 1070 1240 1044 1022 Phosphorus ppm ASTM D5185m 1150 996 1005 1012 Zinc ppm ASTM D5185m 1270 1179 1136 1174 Sulfur ppm ASTM D5185m 2060 3496 3532 3063 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 3 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 4 1 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION *ASTM D7414 <t< th=""><th>Manganese</th><th>ppm</th><th>ASTM D5185m</th><th>0</th><th><1</th><th><1</th><th><1</th></t<>	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 1150 996 1005 1012 Zinc ppm ASTM D5185m 1270 1179 1136 1174 Sulfur ppm ASTM D5185m 2060 3496 3532 3063 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 3 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 4 1 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.6 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION *ASTM D7414 <	Magnesium	ppm	ASTM D5185m	1010	878	886	888
Zinc ppm ASTM D5185m 1270 1179 1136 1174 Sulfur ppm ASTM D5185m 2060 3496 3532 3063 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 3 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 4 1 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.6 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm <th>Calcium</th> <th>ppm</th> <th>ASTM D5185m</th> <th>1070</th> <th>1240</th> <th>1044</th> <th>1022</th>	Calcium	ppm	ASTM D5185m	1070	1240	1044	1022
Sulfur ppm ASTM D5185m 2060 3496 3532 3063 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 3 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 4 1 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.6 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	Phosphorus	ppm	ASTM D5185m	1150	996	1005	1012
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 3 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 4 1 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.6 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	Zinc	ppm	ASTM D5185m	1270	1179	1136	1174
Silicon ppm ASTM D5185m >25 7 3 3 Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 4 1 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.6 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	Sulfur		ASTM D5185m	2060	3496	3532	3063
Sodium ppm ASTM D5185m 2 7 8 Potassium ppm ASTM D5185m >20 4 1 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.6 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 4 1 7 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.6 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	Silicon	ppm	ASTM D5185m	>25			
INFRA-RED	Sodium	ppm	ASTM D5185m		2	7	8
Soot % % *ASTM D7844 >4 0.2 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 5.6 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	Potassium	ppm	ASTM D5185m	>20	4	1	7
Nitration Abs/cm *ASTM D7624 >20 5.6 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 17.4 16.8 17.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	Soot %			>4			
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	Nitration	Abs/cm	*ASTM D7624	>20	5.6	6.2	5.9
Oxidation Abs/.1mm *ASTM D7414 >25 12.9 13.6 13.5	Sulfation	Abs/.1mm	*ASTM D7415	>30	17.4	16.8	17.7
	FLUID DEGRA	DATION		limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 7.7 9.3 8.6	Oxidation	Abs/.1mm	*ASTM D7414	>25	12.9	13.6	13.5
, , , , , , , , , , , , , , , , , , , ,	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.7	9.3	8.6



OIL ANALYSIS REPORT



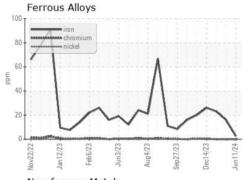


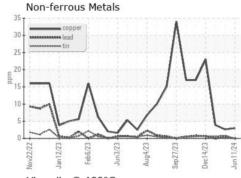


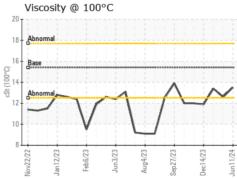
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

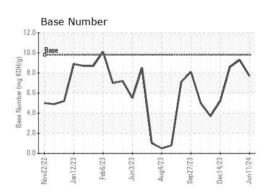
FLUID PROPI	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	12.6	13.4

GRAPHS













Certificate 12367

Laboratory Sample No.

Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0121375 Lab Number : 06211369 Unique Number : 11084233

Received : 17 Jun 2024 **Tested** : 19 Jun 2024 Diagnosed : 19 Jun 2024 - Wes Davis

1130 County Line Rd Trafford, AL

GFL environmental - 867 - Trafford (Blount Hauling)

US 35172 Contact: Service Manager

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)

Report Id: GFL867 [WUSCAR] 06211369 (Generated: 06/22/2024 00:54:57) Rev: 1

Submitted By: GFL166,GFL172,GFL180,GFL867,GFL868,GFL955 - Chelsea Bryan

T:

F: