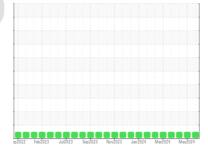


OIL ANALYSIS REPORT

Area (94J1VL) 912065-912065

Diesel Engine

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



Sample Rating Trend



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

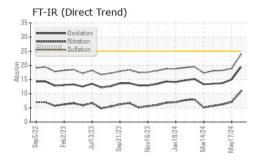
Fluid Condition

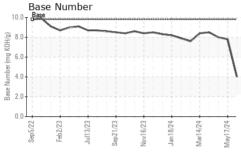
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

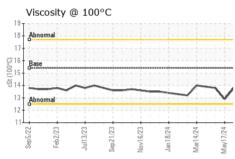
Sample Number Client Info GFL0123160 GFL0104814 GFL010 Sample Date Client Info 29 May 2024 17 May 2024 25 Apr.: Machine Age hrs Client Info 0 6521 6379 G0I Age hrs Client Info 0 65821 6379 G0I Age hrs Client Info N/A N	SAMPLE INFORM	MATION	method_	limit/base	current	history1	history2
Sample Date						•	GFL0104871
Machine Age hrs Client Info 0 6521 6379 Oil Age hrs Client Info 0 6080 6227 Oil Changed Client Info N/A N/A N/A N/A Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 his Fuel WC Method >3.0 <1.0							25 Apr 2024
Oil Age hrs Client Info N/A <		hrs			•	,	
Oil Changed Sample Status Client Info N/A N/A N/A N/A N/A N/A SAMAL NORMAL 1.0 4.0	-						6227
NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history1 history1 history1 history2 history2 history2 history2 history2 history3 history3 history3 history3 history4 history4 history4 history4 history4 history4 history4 history4 history5	-				N/A		
Fuel					NORMAL	NORMAL	NORMAL
Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 his Iron ppm ASTM D5185m >90 3 8 6 Chromium ppm ASTM D5185m >20 <1 1 <1 Nickel ppm ASTM D5185m >20 <1 1 <1 Oliver ppm ASTM D5185m >2 0 <1 0 Aluminum ppm ASTM D5185m >2 0 1 0 Aluminum ppm ASTM D5185m >2 0 1 0 Lead ppm ASTM D5185m >40 <1 <1 0 Copper ppm ASTM D5185m >330 <1 1 0 Capper ppm ASTM D5185m 0 <1 0 <1 0 <t< td=""><td>CONTAMINATION</td><td>ON</td><td>method</td><td>limit/base</td><td>current</td><td>history1</td><td>history2</td></t<>	CONTAMINATION	ON	method	limit/base	current	history1	history2
WEAR METALS	ıel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 his Iron ppm ASTM D5185m >90 3 8 6 Chromium ppm ASTM D5185m >20 <1	ater		WC Method	>0.2	NEG	NEG	NEG
Iron	ycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1 1 <1 Nickel ppm ASTM D5185m >2 0 <1	WEAR METALS	5	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m ≥2 0 <1 0 Titanium ppm ASTM D5185m >2 <1	on	ppm	ASTM D5185m	>90	3	8	6
Titanium ppm ASTM D5185m >2 <1 <1 0 Silver ppm ASTM D5185m >2 0 1 0 Aluminum ppm ASTM D5185m >20 4 2 <1 0 Lead ppm ASTM D5185m >40 <1 <1 0 Copper ppm ASTM D5185m >330 <1 1 0 Vanadium ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m 0 <1 0 <1 0 Cadmium ppm ASTM D5185m 0 1 0 <1 0 ADDITIVES method limit/base current history1 his Boron ppm ASTM D5185m 0 1 0 0 ADDITIVES method limit/base current history1 his Boron ppm ASTM D5185m 0 <td>nromium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>20</td> <td><1</td> <td>1</td> <td><1</td>	nromium	ppm	ASTM D5185m	>20	<1	1	<1
Silver ppm ASTM D5185m >2 0 1 0 Aluminum ppm ASTM D5185m >20 4 2 <1 Lead ppm ASTM D5185m >40 <1 <1 0 Copper ppm ASTM D5185m >330 <1 1 0 Tin ppm ASTM D5185m 0 <1 <1 0 Vanadium ppm ASTM D5185m 0 <1 <1 0 Cadmium ppm ASTM D5185m 0 <1 0 <1 0 ADDITIVES method limit/base current history1 his Boron ppm ASTM D5185m 0 1 0 0 ADDITIVES method limit/base current history1 his Boron ppm ASTM D5185m 0 1 0 0 Boron ppm ASTM D5185m 0 0 1 <	ckel	ppm	ASTM D5185m	>2	0	<1	0
Aluminum ppm ASTM D5185m >20 4 2 <1 Lead ppm ASTM D5185m >40 <1	tanium	ppm	ASTM D5185m	>2	<1	<1	0
Lead ppm ASTM D5185m >40 <1 <1 0 Copper ppm ASTM D5185m >330 <1 1 0 Tin ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m 0 <1 0 ADDITIVES method limit/base current history1 his Boron ppm ASTM D5185m 0 1 0 0 Barium ppm ASTM D5185m 0 1 <1 0 Molybdenum ppm ASTM D5185m 0 1 <1 0 Magnesium ppm ASTM D5185m 0 0 <1 0 Calcium ppm ASTM D5185m 1070 1089 996 1061 Phosphorus ppm ASTM D5185m 1270 1199 1169 1231	lver	ppm	ASTM D5185m	>2	0	1	0
Copper ppm ASTM D5185m >330 <1 1 0 Tin ppm ASTM D5185m >15 <1	uminum	ppm	ASTM D5185m	>20	4	2	<1
Tin ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m 0 <1 0 ADDITIVES method limit/base current history1 his Boron ppm ASTM D5185m 0 1 0 0 Barium ppm ASTM D5185m 0 1 <1 0 Molybdenum ppm ASTM D5185m 0 1 <1 0 Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 882 910 955 Calcium ppm ASTM D5185m 1070 1089 996 1061 Phosphorus ppm ASTM D5185m 1270 1199 1169 1231 Sulfur ppm ASTM D5185m 2060 3237 2955 3550 </td <td>ad</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>40</td> <td><1</td> <td><1</td> <td>0</td>	ad	ppm	ASTM D5185m	>40	<1	<1	0
Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m 0 <1 0 ADDITIVES method limit/base current history1 his Boron ppm ASTM D5185m 0 1 0 0 Barium ppm ASTM D5185m 0 1 <1	opper	ppm	ASTM D5185m	>330	<1	1	0
Cadmium ppm ASTM D5185m 0 <1 0 ADDITIVES method limit/base current history1 his Boron ppm ASTM D5185m 0 1 0 0 Barium ppm ASTM D5185m 0 1 <1	n	ppm	ASTM D5185m	>15	<1	<1	0
ADDITIVES	anadium	ppm	ASTM D5185m		0	<1	0
Boron ppm ASTM D5185m 0 1 0 0 Barium ppm ASTM D5185m 0 1 <1 0 Molybdenum ppm ASTM D5185m 60 60 57 57 Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 882 910 955 Calcium ppm ASTM D5185m 1070 1089 996 1061 Phosphorus ppm ASTM D5185m 1150 978 939 1036 Zinc ppm ASTM D5185m 1270 1199 1169 1231 Sulfur ppm ASTM D5185m 2060 3237 2955 3550 CONTAMINANTS method limit/base current history1 his Silicon ppm ASTM D5185m >20 3 4 2 Sodium ppm ASTM D5185m <th< td=""><td>admium</td><td>ppm</td><td>ASTM D5185m</td><td></td><td>0</td><td><1</td><td>0</td></th<>	admium	ppm	ASTM D5185m		0	<1	0
Barium ppm ASTM D5185m 0 1 <1 0 Molybdenum ppm ASTM D5185m 60 60 57 57 Manganese ppm ASTM D5185m 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 60 57 57 Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 882 910 955 Calcium ppm ASTM D5185m 1070 1089 996 1061 Phosphorus ppm ASTM D5185m 1150 978 939 1036 Zinc ppm ASTM D5185m 1270 1199 1169 1231 Sulfur ppm ASTM D5185m 2060 3237 2955 3550 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 3 4 2 Sodium ppm ASTM D5185m >20 3 4 <1 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7624	oron	ppm	ASTM D5185m	0	1	0	0
Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 882 910 955 Calcium ppm ASTM D5185m 1070 1089 996 1061 Phosphorus ppm ASTM D5185m 1150 978 939 1036 Zinc ppm ASTM D5185m 1270 1199 1169 1231 Sulfur ppm ASTM D5185m 2060 3237 2955 3550 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 3 4 2 Sodium ppm ASTM D5185m >20 3 4 <1	arium	ppm	ASTM D5185m	0	1	<1	0
Magnesium ppm ASTM D5185m 1010 882 910 955 Calcium ppm ASTM D5185m 1070 1089 996 1061 Phosphorus ppm ASTM D5185m 1150 978 939 1036 Zinc ppm ASTM D5185m 1270 1199 1169 1231 Sulfur ppm ASTM D5185m 2060 3237 2955 3550 CONTAMINANTS method limit/base current history1 his Silicon ppm ASTM D5185m >25 3 4 2 Sodium ppm ASTM D5185m >20 3 4 <1 INFRA-RED method limit/base current history1 his Soot % % *ASTM D7844 >6 0.2 0.4 0.3 Nitration Abs/cm *ASTM D7624 >20 10.8 7.1 6.2 Sulfation Abs/.1mm *ASTM D7415	olybdenum	ppm	ASTM D5185m	60	60	57	57
Calcium ppm ASTM D5185m 1070 1089 996 1061 Phosphorus ppm ASTM D5185m 1150 978 939 1036 Zinc ppm ASTM D5185m 1270 1199 1169 1231 Sulfur ppm ASTM D5185m 2060 3237 2955 3550 CONTAMINANTS method limit/base current history1 his Silicon ppm ASTM D5185m >25 3 4 2 Sodium ppm ASTM D5185m >20 3 4 <1	anganese	ppm	ASTM D5185m	0	0	<1	0
Phosphorus ppm ASTM D5185m 1150 978 939 1036 Zinc ppm ASTM D5185m 1270 1199 1169 1231 Sulfur ppm ASTM D5185m 2060 3237 2955 3550 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 3 4 2 Sodium ppm ASTM D5185m >20 3 4 <1	agnesium	ppm	ASTM D5185m	1010	882	910	955
Zinc ppm ASTM D5185m 1270 1199 1169 1231 Sulfur ppm ASTM D5185m 2060 3237 2955 3550 CONTAMINANTS method limit/base current history1 his Silicon ppm ASTM D5185m >25 3 4 2 Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 3 4 <1	alcium	ppm	ASTM D5185m	1070	1089	996	1061
Sulfur ppm ASTM D5185m 2060 3237 2955 3550 CONTAMINANTS method limit/base current history1 hist Silicon ppm ASTM D5185m >25 3 4 2 Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 3 4 <1	nosphorus	ppm	ASTM D5185m	1150	978	939	1036
CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 3 4 2 Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 3 4 <1	nc	ppm	ASTM D5185m	1270	1199	1169	1231
Silicon ppm ASTM D5185m >25 3 4 2 Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 3 4 <1 INFRA-RED method limit/base current history1 hist Soot % % *ASTM D7844 >6 0.2 0.4 0.3 Nitration Abs/cm *ASTM D7624 >20 10.8 7.1 6.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 18.9 18.2	ılfur	ppm	ASTM D5185m	2060	3237	2955	3550
Sodium ppm ASTM D5185m 0 4 3 Potassium ppm ASTM D5185m >20 3 4 <1 INFRA-RED method limit/base current history1 his Soot % % *ASTM D7844 >6 0.2 0.4 0.3 Nitration Abs/cm *ASTM D7624 >20 10.8 7.1 6.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 18.9 18.2	CONTAMINANT	rs -	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 3 4 <1 INFRA-RED method limit/base current history1 his Soot % % *ASTM D7844 >6 0.2 0.4 0.3 Nitration Abs/cm *ASTM D7624 >20 10.8 7.1 6.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 18.9 18.2	licon	ppm	ASTM D5185m	>25	3	4	2
INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >6 0.2 0.4 0.3 Nitration Abs/cm *ASTM D7624 >20 10.8 7.1 6.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 18.9 18.2	odium	ppm	ASTM D5185m		0	4	3
Soot % % *ASTM D7844 >6 0.2 0.4 0.3 Nitration Abs/cm *ASTM D7624 >20 10.8 7.1 6.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 18.9 18.2	otassium	ppm	ASTM D5185m	>20	3	4	<1
Nitration Abs/cm *ASTM D7624 >20 10.8 7.1 6.2 Sulfation Abs/.1mm *ASTM D7415 >30 23.8 18.9 18.2	NFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 23.8 18.9 18.2	oot %	%	*ASTM D7844	>6	0.2	0.4	0.3
	tration	Abs/cm	*ASTM D7624	>20	10.8	7.1	6.2
FLUID DEGRADATION method limit/base current history1 his		Ahe/1mm	*ASTM D7415	>30	23.8	18.9	18.2
		AUS/. ! ! ! ! ! ! !					
Oxidation Abs/.1mm *ASTM D7414 >25 19.4 15.0 13.7	ulfation			limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 4.0 7.8 8.0	ulfation FLUID DEGRAD	ATION	method			· ·	



OIL ANALYSIS REPORT



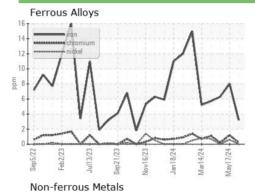


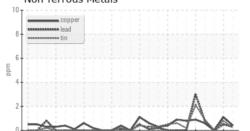


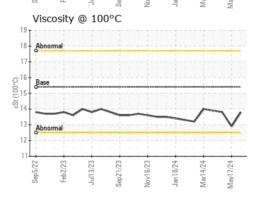
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

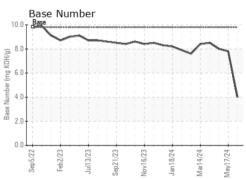
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	12.9	13.8	

GRAPHS













Certificate 12367

Laboratory Sample No.

Lab Number : 06201057 Unique Number : 11063180 Test Package : FLEET

: GFL0123160

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 05 Jun 2024 **Tested** : 06 Jun 2024

Diagnosed : 06 Jun 2024 - Wes Davis

3700 West 7th Street Joplin, MO

GFL Environmental - 820 - Joplin Hauling

US 64801 Contact: James Jarrett jjarrett@gflenv.com T: (417)310-2802

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: GFL820 [WUSCAR] 06201057 (Generated: 06/06/2024 19:32:07) Rev: 1

Submitted By: VINCE ASTI