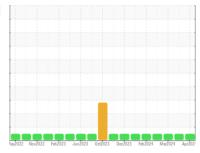


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id
712027
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

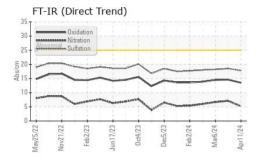
Fluid Condition

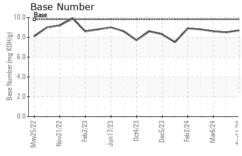
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

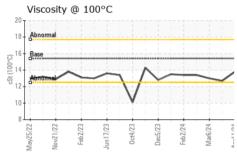
SAMPLE INFORMATION method limit/base current history1 history2	āAL)		fay2022 Nov2	022 Feb2023 Jun2023	Oct2023 Dec2023 Feb2024 Mar.	2024 Apr202 [,]	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		GFL0105072	GFL0105193	GFL0105240
Machine Age hrs Client Info 150 600 450 Oil Age hrs Client Info 150 600 450 Oil Changed Client Info Not Changed			Client Info		11 Apr 2024	19 Mar 2024	06 Mar 2024
Oil Age hrs Client Info Not Changd 600 450 Oil Changed Client Info Not Changd Changed Not Cha	•	hrs	Client Info		-	5401	5304
Sample Status	•	hrs	Client Info		150	600	450
Sample Status	•		Client Info		Not Changd	Changed	Not Changd
Fuel					NORMAL	NORMAL	NORMAL
Water Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >110 0 9 5 Chromium ppm ASTM D5185m >4 0 <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	NEG
Chromium ppm ASTM D5185m >4 0 <1 0 Nickel ppm ASTM D5185m >2 0 <1	WEAR METAL	.S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >2 0 <1 0 Titanium ppm ASTM D5185m 0 <1	Iron	ppm	ASTM D5185m	>110	0	9	5
Titanium ppm ASTM D5185m 0 <1 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >25 1 6 4 Lead ppm ASTM D5185m >45 0 0 0 Copper ppm ASTM D5185m >85 0 1 0 Tin ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 0	Chromium	ppm	ASTM D5185m	>4	0	<1	0
Silver	Nickel	ppm	ASTM D5185m	>2	0	<1	0
Aluminum ppm ASTM D5185m >25 1 6 4 Lead ppm ASTM D5185m >45 0 0 0 Copper ppm ASTM D5185m >85 0 1 0 Tin ppm ASTM D5185m 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Titanium	ppm	ASTM D5185m		0	<1	0
Lead ppm ASTM D5185m >45 0 0 0 Copper ppm ASTM D5185m >85 0 1 0 Tin ppm ASTM D5185m >4 0 <1 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 <1 0 0 Calcium ppm ASTM D5185m 1070 987 1106 975 Phosphorus ppm ASTM D5185m 1270 <t< td=""><td>Silver</td><td>ppm</td><td>ASTM D5185m</td><td>>2</td><th>0</th><td>0</td><td>0</td></t<>	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >85 0 1 0 Tin ppm ASTM D5185m >4 0 <1	Aluminum	ppm	ASTM D5185m	>25	1	6	4
Tin ppm ASTM D5185m >4 0 <1 0 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 0 0 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 0 Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1070 987 1106 975 Phosphorus ppm ASTM D5185m 1150 970 1116 876 Zinc ppm ASTM D5185m 1270 1118 1285 1058 Sulfur ppm ASTM D5185m 2060 3126	Lead	ppm	ASTM D5185m	>45	0	0	0
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 0 0 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 <1 0 Manganese ppm ASTM D5185m 1010 861 957 875 Calcium ppm ASTM D5185m 1070 987 1106 975 Phosphorus ppm ASTM D5185m 1150 970 1116 876 Zinc ppm ASTM D5185m 1270 1118 1285 1058 Sulfur ppm ASTM D5185m 2060 3126 3208 2696 CONTAMINANTS method limit/base current his	Copper	ppm	ASTM D5185m	>85	0	1	0
Cadmium ppm ASTM D5185m 0	Tin	ppm	ASTM D5185m	>4	0	<1	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 <1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 52 59 55 Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 861 957 875 Calcium ppm ASTM D5185m 1070 987 1106 975 Phosphorus ppm ASTM D5185m 1150 970 1116 876 Zinc ppm ASTM D5185m 1270 1118 1285 1058 Sulfur ppm ASTM D5185m 2060 3126 3208 2696 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 52 59 55 Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 861 957 875 Calcium ppm ASTM D5185m 1070 987 1106 975 Phosphorus ppm ASTM D5185m 1150 970 1116 876 Zinc ppm ASTM D5185m 1270 1118 1285 1058 Sulfur ppm ASTM D5185m 2060 3126 3208 2696 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3 <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th><1</th> <td>0</td> <td>0</td>	Boron	ppm	ASTM D5185m	0	<1	0	0
Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 861 957 875 Calcium ppm ASTM D5185m 1070 987 1106 975 Phosphorus ppm ASTM D5185m 1150 970 1116 876 Zinc ppm ASTM D5185m 1270 1118 1285 1058 Sulfur ppm ASTM D5185m 2060 3126 3208 2696 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7845<	Barium	ppm	ASTM D5185m	0	-	0	0
Magnesium ppm ASTM D5185m 1010 861 957 875 Calcium ppm ASTM D5185m 1070 987 1106 975 Phosphorus ppm ASTM D5185m 1150 970 1116 876 Zinc ppm ASTM D5185m 1270 1118 1285 1058 Sulfur ppm ASTM D5185m 2060 3126 3208 2696 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm "ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION "ASTM D7414	Molybdenum	ppm					
Calcium ppm ASTM D5185m 1070 987 1106 975 Phosphorus ppm ASTM D5185m 1150 970 1116 876 Zinc ppm ASTM D5185m 1270 1118 1285 1058 Sulfur ppm ASTM D5185m 2060 3126 3208 2696 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1m	Manganese	ppm	ASTM D5185m		0	<1	0
Phosphorus ppm ASTM D5185m 1150 970 1116 876 Zinc ppm ASTM D5185m 1270 1118 1285 1058 Sulfur ppm ASTM D5185m 2060 3126 3208 2696 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/.m *ASTM D7624 >20 5.2 7.1 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/	_	ppm					
Zinc ppm ASTM D5185m 1270 1118 1285 1058 Sulfur ppm ASTM D5185m 2060 3126 3208 2696 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.2 7.1 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.5 14.6 14.5	Calcium	ppm	ASTM D5185m	1070		1106	975
Sulfur ppm ASTM D5185m 2060 3126 3208 2696 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m <1	Phosphorus	ppm	ASTM D5185m	1150			
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m <1	Zinc	ppm				1285	
Silicon ppm ASTM D5185m >30 2 4 2 Sodium ppm ASTM D5185m <1 4 3 Potassium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.2 7.1 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.5 14.6 14.5			ASTM D5185m	2060	3126	3208	2696
Sodium ppm ASTM D5185m <1 4 3 Potassium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.2 7.1 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.5 14.6 14.5	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 10 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.2 7.1 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.5 14.6 14.5				>30			
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.2 7.1 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.5 14.6 14.5		ppm	ASTM D5185m		<1	4	3
Soot % % *ASTM D7844 >3 0.1 0.2 0.2 Nitration Abs/cm *ASTM D7624 >20 5.2 7.1 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.5 14.6 14.5	Potassium	ppm	ASTM D5185m	>20	0	10	6
Nitration Abs/cm *ASTM D7624 >20 5.2 7.1 6.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.5 14.6 14.5	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 17.8 18.5 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.5 14.6 14.5	Soot %	%	*ASTM D7844	>3	0.1	0.2	0.2
FLUID DEGRADATION method limit/base current history1 history2OxidationAbs/.1mm *ASTM D7414 >2513.514.614.5	Nitration	Abs/cm	*ASTM D7624	>20	5.2	7.1	6.7
Oxidation Abs/.1mm *ASTM D7414 >25 13.5 14.6 14.5	Sulfation	Abs/.1mm	*ASTM D7415	>30	17.8	18.5	18.2
	FLUID DEGRAI	OITAC	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.7 8.5 8.6	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.5	14.6	14.5
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.7	8.5	8.6



OIL ANALYSIS REPORT



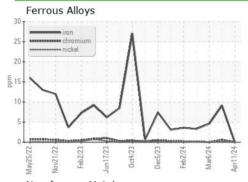


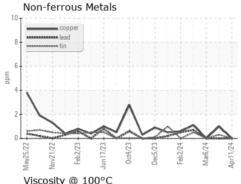


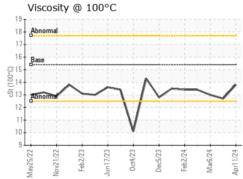
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

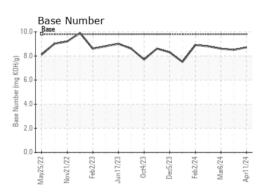
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	12.7	13.0

GRAPHS













Certificate 12367

Laboratory Sample No.

Lab Number : 06148269

: GFL0105072

Unique Number : 10978347 Test Package : FLEET

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

Received : 15 Apr 2024 **Tested** : 15 Apr 2024 Diagnosed : 15 Apr 2024 - Wes Davis

GFL Environmental - 821 - Ozarks Hauling 33924 Olath Drive Lebanon, MO

US 65536 Contact: Landen Johnson landen.johnson@gflenv.com

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: GFL821 [WUSCAR] 06148269 (Generated: 04/15/2024 19:38:45) Rev: 1

T: (417)664-0010