

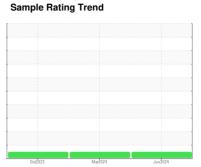




(TK1650JU) 712063 Component

Diesel Engine

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





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

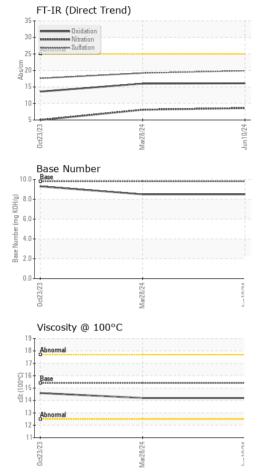
Fluid Condition

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

Sample Date Client Info 10 Jun 2024 28 Mar 2024 23 Oct 2023 Machine Age hrs Client Info 2892 2	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 2892 2892 2892 2892 Oil Age hrs Client Info 600 600 600 600 Oil Changed Client Info Changed Changed Changed Changed Changed Changed Changed NORMAL CONTAMINATION method Imitibase current history1 history2 Fuel WC Method >3.0 <1.0	Sample Number		Client Info		GFL0121976	GFL0108994	GFL0091695
Oil Age hrs Client Info 600 600 600 600 Oil Changed Sample Status Client Info Changed Chang	Sample Date		Client Info		10 Jun 2024	28 Mar 2024	23 Oct 2023
Client Info Changed Changed Changed NORMAL NORMAL NORMAL NORMAL NORMAL	Machine Age	hrs	Client Info		2892	2892	2892
Client Info Changed Changed Changed NORMAL NORMAL NORMAL NORMAL NORMAL		hrs	Client Info		600	600	600
NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 history2	•						
Fuel					_		
Water Glycol WC Method >0.2 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 14 12 0 Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >2 <1 <1 0 Silver ppm ASTM D5185m >2 <1 <1 0 Silver ppm ASTM D5185m >2 0 <1 <1 Silver ppm ASTM D5185m >20 3 2 <1 Silver ppm ASTM D5185m >40 0 <1 0 Copper ppm ASTM D5185m >40 0 <1 <1 0 Capper ppm ASTM D5185m >15 0 <1 <1 <1 <1 <1 <1 <1 <1	•	TION	method	limit/base	current	history1	history2
Water Glycol WC Method >0.2 NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 14 12 0 Chromium ppm ASTM D5185m >20 <1	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2		NFG	NFG
Irron	Glycol			7 0.2			
Irron	WEAR META	LS	method	limit/base	current	historv1	historv2
Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >2 <1 <1 0 Titanium ppm ASTM D5185m >2 <1 <1 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >20 3 2 <1 Aluminum ppm ASTM D5185m >20 3 2 <1 Lead ppm ASTM D5185m >40 0 <1 0 Copper ppm ASTM D5185m >330 1 1 0 Tin ppm ASTM D5185m 0 <1 <1 1 Vanadium ppm ASTM D5185m 0 <1 <1 1 Vanadium ppm ASTM D5185m 0 8 3 4 Barium ppm ASTM D5185m 0 8 3 <th< td=""><td></td><td></td><td></td><td></td><th></th><td></td><td></td></th<>							
Nickel							
Titanium							
Silver							
Aluminum ppm ASTM D5185m >20 3 2 <1 Lead ppm ASTM D5185m >40 0 <1							
Lead							
Copper ppm ASTM D5185m >330 1 1 0 Tin ppm ASTM D5185m >15 0 <1	Aluminum	ppm	ASTM D5185m	>20	3		<1
Tin	Lead	ppm	ASTM D5185m	>40	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 8 3 4 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 60 63 64 54 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 944 990 892 Calcium ppm ASTM D5185m 1070 1065 1145 975 Phosphorus ppm ASTM D5185m 1270 1271 1271 1161 Sulfur ppm ASTM D5185m 2060 3428 3187 2892 CONTAMINANTS method limit/base current	Copper	ppm	ASTM D5185m	>330	1	1	0
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Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 8 3 4 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 <1 <1 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
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Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 944 990 892 Calcium ppm ASTM D5185m 1070 1065 1145 975 Phosphorus ppm ASTM D5185m 1150 1026 971 987 Zinc ppm ASTM D5185m 1270 1271 1271 1161 Sulfur ppm ASTM D5185m 2060 3428 3187 2892 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >20 3 2 <1 Potassium ppm ASTM D5185m >20 3 2 <1 INFRA-RED method limit/base </td <td>Barium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th>0</th> <td>0</td> <td>0</td>	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 944 990 892 Calcium ppm ASTM D5185m 1070 1065 1145 975 Phosphorus ppm ASTM D5185m 1150 1026 971 987 Zinc ppm ASTM D5185m 1270 1271 1271 1161 Sulfur ppm ASTM D5185m 2060 3428 3187 2892 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >25 5 <1	Molybdenum	ppm	ASTM D5185m	60	63	64	54
Calcium ppm ASTM D5185m 1070 1065 1145 975 Phosphorus ppm ASTM D5185m 1150 1026 971 987 Zinc ppm ASTM D5185m 1270 1271 1271 1161 Sulfur ppm ASTM D5185m 2060 3428 3187 2892 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >5 5 <1	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Calcium ppm ASTM D5185m 1070 1065 1145 975 Phosphorus ppm ASTM D5185m 1150 1026 971 987 Zinc ppm ASTM D5185m 1270 1271 1271 1161 Sulfur ppm ASTM D5185m 2060 3428 3187 2892 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m >20 3 2 <1	Magnesium	ppm	ASTM D5185m	1010	944	990	892
Phosphorus ppm ASTM D5185m 1150 1026 971 987 Zinc ppm ASTM D5185m 1270 1271 1271 1161 Sulfur ppm ASTM D5185m 2060 3428 3187 2892 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m 5 5 <1	Calcium	ppm	ASTM D5185m	1070	1065	1145	975
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Sulfur ppm ASTM D5185m 2060 3428 3187 2892 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m 5 5 <1			ASTM D5185m		1271		
Silicon ppm ASTM D5185m >25 3 4 3 Sodium ppm ASTM D5185m 5 5 <1 Potassium ppm ASTM D5185m >20 3 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.6 0.4 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 8.1 5.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.2 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 13.6	Sulfur						
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Potassium ppm ASTM D5185m >20 3 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.6 0.4 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 8.1 5.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.2 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 13.6							
Soot % % *ASTM D7844 >6 0.6 0.4 0.1 Nitration Abs/cm *ASTM D7624 >20 8.6 8.1 5.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.2 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 13.6	Potassium			>20			
Nitration Abs/cm *ASTM D7624 >20 8.6 8.1 5.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.2 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 13.6	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 8.6 8.1 5.0 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.2 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 13.6	Soot %	%	*ASTM D7844	>6	0.6	0.4	0.1
Sulfation Abs/.1mm *ASTM D7415 >30 19.9 19.2 17.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 13.6							
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 13.6	Sulfation						
Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 13.6							
	FLUID DEGRA	ADATION	method_				history2



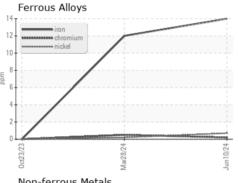
OIL ANALYSIS REPORT



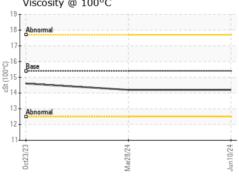
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

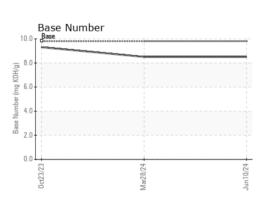
FLUID PROPE	RHES	method	limit/base		history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.2	14.6

GRAPHS



copper		
8 - seesessesses tin		
an an		
6		
4		
2		
0		
53	24	
0ct23/23	Mar28/24	
5	is	









Certificate 12367

Laboratory Sample No. Lab Number : 06211397 Unique Number : 11084261

Test Package : FLEET

: GFL0121976

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 17 Jun 2024 Tested : 18 Jun 2024 Diagnosed

: 18 Jun 2024 - Wes Davis

GFL Environmental - 401 - Fort Wayne Hauling

4429 ALLEN MARTIN DR FORT WAYNE, IN US 46806

Contact: Zachory Roehm zroehm@gflenv.com

* - 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: