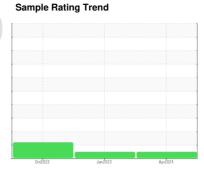


OIL ANALYSIS REPORT

MONTGOMERY KENWORTH 123060

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

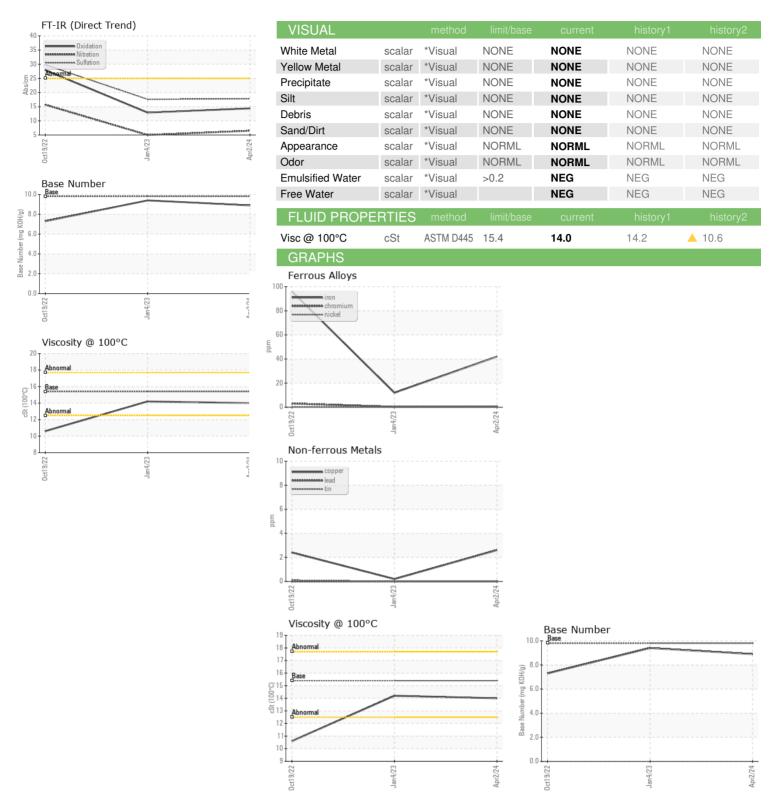
Fluid Condition

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

SAMPLE INFORMATION method limit/base current history1 GFL0055032	AAL)		Uc	12022	Janzuza Aprzu	24		
Sample Date Client Info 02 Apr 2024 04 Jan 2023 19 Oct 2022 Machine Age hrs Client Info 19382 19336 19336 19336 Oil Age hrs Client Info Not Changed Cha	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2	
Machine Age hrs Client Info 19382 19336 19336 19336 Oil Age hrs Client Info 0 19336 19336 19336 Oil Changed Client Info Not Changd NoRMAL ABNORMAL Sample Status method limit/base current history1 history2 Fuel WC Method >5 <1.0	Sample Number		Client Info		GFL0083547	GFL0070111	GFL0055032	
Oil Age hrs Client Info Not Changed 19336 19336 Oil Changed Sample Status Client Info Not Changed Changed Changed Changed Changed Sample Status Morman NoRMAL NoRMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 0.3 ^7.4 7.4 Water WC Method >5 <1.0 0.3 ^7.4 7.4 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 42 12 96 Chromium ppm ASTM D5185m >100 <1 <1 3 Nickel ppm ASTM D5185m >20 <1 <1 0 <1 Silver ppm ASTM D5185m >20 8 2 15 Lead ppm ASTM D5185m >40 0	Sample Date		Client Info		02 Apr 2024	04 Jan 2023	19 Oct 2022	
Oil Changed Sample Status Client Info Not Changed NORMAL Changed NORMAL ABNORMAL Changed ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1,0	Machine Age	hrs	Client Info		19382	19336	19336	
CONTAMINATION method mili/base current history1 history2	Oil Age	hrs	Client Info		0	19336	19336	
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	Oil Changed		Client Info		Not Changd	Changed	Changed	
Fuel	Sample Status				NORMAL	NORMAL	ABNORMAL	
Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 42 12 96 Chromium ppm ASTM D5185m >20 <1 <1 3 Nickel ppm ASTM D5185m >4 0 <1 <1 Silver ppm ASTM D5185m >4 0 0 0 Silver ppm ASTM D5185m >40 0 0 0 Aluminum ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >15 0 0 <1 Tin ppm ASTM D5185m >15 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 0	CONTAMINAT	ION	method	limit/base	current	history1	history2	
WEAR METALS	Fuel		WC Method	>5	<1.0	0.3	△ 7.4	
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG	
Irron	Glycol		WC Method		NEG	NEG	NEG	
Chromium ppm ASTM D5185m >20 <1 <1 3 Nickel ppm ASTM D5185m >4 0 <1 <1 Titanium ppm ASTM D5185m >4 0 <1 <1 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 8 2 15 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >15 0 0 <1 Vanadium ppm ASTM D5185m >15 0 0 <1 Vanadium ppm ASTM D5185m 0 5 46 44 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 5 46	WEAR METAL	S	method	limit/base	current	history1	history2	
Nickel	Iron	ppm	ASTM D5185m	>100	42	12	96	
Silver	Chromium	ppm	ASTM D5185m	>20	<1	<1	3	
Silver	Nickel	ppm	ASTM D5185m	>4	0	<1	<1	
Aluminum ppm ASTM D5185m >20 8 2 15 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 3 <1	Titanium	ppm	ASTM D5185m		<1	0	<1	
Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 3 <1 2 Tin ppm ASTM D5185m >15 0 0 <1 Vanadium ppm ASTM D5185m <1 0 <1 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 5 46 44 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 61 68 81 Manganese ppm ASTM D5185m 0 <1 <1 2 Magnesium ppm ASTM D5185m 1010 949 814 471 Calcium ppm ASTM D5185m 1070 1069 1194 12	Silver	ppm	ASTM D5185m	>3	0	0	0	
Copper ppm ASTM D5185m >330 3 <1 2 Tin ppm ASTM D5185m >15 0 0 <1	Aluminum	ppm	ASTM D5185m	>20	8	2	15	
Tin	Lead	ppm	ASTM D5185m	>40	0	0	0	
Vanadium ppm ASTM D5185m <1 0 <1 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 5 46 44 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 60 61 68 81 Manganese ppm ASTM D5185m 0 <1 <1 2 Magnesium ppm ASTM D5185m 1070 1069 1194 1241 Phosphorus ppm ASTM D5185m 1270 1050 908 761 Zinc ppm ASTM D5185m 1270 1270 1103 1021 Sulfur ppm ASTM D5185m 20 1270 1103 1021 Solicon ppm ASTM D5185m >25 5	Copper	ppm	ASTM D5185m	>330	3	<1	2	
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 5 46 44 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 61 68 81 Manganese ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>15	0	0	<1	
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	0	<1	
Boron	Cadmium	ppm	ASTM D5185m		0	0	0	
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 61 68 81 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum ppm ASTM D5185m 60 61 68 81 Manganese ppm ASTM D5185m 0 <1 <1 2 Magnesium ppm ASTM D5185m 1010 949 814 471 Calcium ppm ASTM D5185m 1070 1069 1194 1241 Phosphorus ppm ASTM D5185m 1150 1050 908 761 Zinc ppm ASTM D5185m 1270 1270 1103 1021 Sulfur ppm ASTM D5185m 2060 3743 3206 2525 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 10 Sodium ppm ASTM D5185m >20 1 <1 6 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7414 >3	Boron	ppm	ASTM D5185m	0	5	46	44	
Manganese ppm ASTM D5185m 0 <1 <1 2 Magnesium ppm ASTM D5185m 1010 949 814 471 Calcium ppm ASTM D5185m 1070 1069 1194 1241 Phosphorus ppm ASTM D5185m 1150 1050 908 761 Zinc ppm ASTM D5185m 1270 1270 1103 1021 Sulfur ppm ASTM D5185m 2060 3743 3206 2525 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 10 Sodium ppm ASTM D5185m >20 1 <1 0 Potassium ppm ASTM D5185m >20 1 <1 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 <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 949 814 471 Calcium ppm ASTM D5185m 1070 1069 1194 1241 Phosphorus ppm ASTM D5185m 1150 1050 908 761 Zinc ppm ASTM D5185m 1270 1270 1103 1021 Sulfur ppm ASTM D5185m 2060 3743 3206 2525 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 10 Sodium ppm ASTM D5185m >20 1 <1	Molybdenum	ppm	ASTM D5185m	60	61	68	81	
Calcium ppm ASTM D5185m 1070 1069 1194 1241 Phosphorus ppm ASTM D5185m 1150 1050 908 761 Zinc ppm ASTM D5185m 1270 1270 1103 1021 Sulfur ppm ASTM D5185m 2060 3743 3206 2525 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 10 Sodium ppm ASTM D5185m >20 1 <1	<td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th><1</th> <td><1</td> <td>2</td>	Manganese	ppm	ASTM D5185m	0	<1	<1	2
Phosphorus ppm ASTM D5185m 1150 1050 908 761 Zinc ppm ASTM D5185m 1270 1270 1103 1021 Sulfur ppm ASTM D5185m 2060 3743 3206 2525 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 10 Sodium ppm ASTM D5185m >20 1 <1	Magnesium	ppm	ASTM D5185m	1010	949	814	471	
Zinc ppm ASTM D5185m 1270 1270 1103 1021 Sulfur ppm ASTM D5185m 2060 3743 3206 2525 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 10 Sodium ppm ASTM D5185m 20 1 <1	Calcium	ppm	ASTM D5185m	1070	1069	1194	1241	
Sulfur ppm ASTM D5185m 2060 3743 3206 2525 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 10 Sodium ppm ASTM D5185m 1 <1	Phosphorus	ppm		1150	1050	908	761	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 6 10 Sodium ppm ASTM D5185m 1 <1	Zinc	ppm	ASTM D5185m	1270	1270	1103	1021	
Silicon ppm ASTM D5185m >25 5 6 10 Sodium ppm ASTM D5185m 1 <1 0 Potassium ppm ASTM D5185m >20 1 <1 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.1 2 Nitration Abs/cm *ASTM D7624 >20 6.5 5 15.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 17.6 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 12.9 27.9	Sulfur	ppm	ASTM D5185m	2060	3743	3206	2525	
Sodium ppm ASTM D5185m 1 <1 0 Potassium ppm ASTM D5185m >20 1 <1 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.1 2 Nitration Abs/cm *ASTM D7624 >20 6.5 5 15.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 17.6 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 12.9 27.9	CONTAMINAN	ITS	method	limit/base	current	history1	history2	
Potassium ppm ASTM D5185m >20 1 <1 6 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.1 2 Nitration Abs/cm *ASTM D7624 >20 6.5 5 15.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 17.6 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 12.9 27.9	Silicon	ppm	ASTM D5185m	>25	5	6	10	
INFRA-RED	Sodium	ppm	ASTM D5185m		1	<1	0	
Soot % % *ASTM D7844 >3 0.3 0.1 2 Nitration Abs/cm *ASTM D7624 >20 6.5 5 15.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 17.6 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 12.9 27.9	Potassium	ppm	ASTM D5185m	>20	1	<1	6	
Nitration Abs/cm *ASTM D7624 >20 6.5 5 15.7 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 17.6 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 12.9 27.9	INFRA-RED		method	limit/base	current	history1	history2	
Sulfation Abs/.1mm *ASTM D7415 >30 17.8 17.6 29.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 12.9 27.9	Soot %	%	*ASTM D7844	>3	0.3	0.1	2	
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 12.9 27.9	Nitration	Abs/cm	*ASTM D7624	>20	6.5	5	15.7	
Oxidation Abs/.1mm *ASTM D7414 >25 14.4 12.9 27.9	Sulfation	Abs/.1mm	*ASTM D7415	>30	17.8	17.6	29.8	
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2	
	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.4	12.9	27.9	



OIL ANALYSIS REPORT







Certificate 12367

Laboratory Sample No.

Lab Number : 06138328 Unique Number : 10963136

: GFL0083547 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 04 Apr 2024

Tested : 05 Apr 2024 Diagnosed : 05 Apr 2024 - Wes Davis

GFL Environmental - 955 - Montgomery 1121 Wilbanks St Montgomery, AL

US 36108 Contact: LISA REEVES

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

 st - 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: GFL955 [WUSCAR] 06138328 (Generated: 04/05/2024 04:29:32) Rev: 1

Submitted By: Lisa Reeves

T:

F: