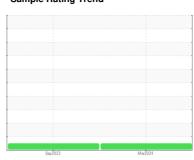


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **424100**

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

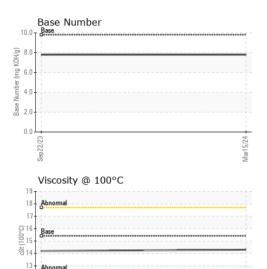
Fluid Condition

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

Machine Age hrs Client Info 29920 28968 Oil Age hrs Client Info 29920 28968	AL)			Sep2023	Mar2024		
Sample Date Client Info 15 Mar 2024 22 Sep 2023	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 29920 28968	Sample Number		Client Info		GFL0108348	GFL0090353	
Oil Age hrs Client Info 29920 28968	Sample Date		Client Info		15 Mar 2024	22 Sep 2023	
Client Info Changed N/A NORMAL NORMAL		hrs	Client Info		29920		
CONTAMINATION method limit/base current history1 history2	Oil Age	hrs	Client Info		29920	28968	
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	Oil Changed		Client Info		Changed	N/A	
Fuel WC Method S5 <1.0 <1.0 Water WC Method S0.2 NEG NEG NEG NEG NEg NEg Neg	Sample Status				NORMAL	NORMAL	
Water WC Method >0.2 NEG NEG	CONTAMINATIO	NC	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	
Chromium	Glycol		WC Method		NEG	NEG	
Chromium ppm ASTM D5185m >20 2 2 Nickel ppm ASTM D5185m >4 0 2 Titanium ppm ASTM D5185m >3 0 0 Sliver ppm ASTM D5185m >3 0 0 Aluminum ppm ASTM D5185m >3 0 0 Aluminum ppm ASTM D5185m >40 2 2 2 Lead ppm ASTM D5185m >40 2 2 2 Copper ppm ASTM D5185m >15 0 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	38	36	
Titanium	Chromium	ppm	ASTM D5185m	>20	2	2	
Silver	Nickel	ppm	ASTM D5185m	>4	0	2	
Aluminum	Titanium	ppm	ASTM D5185m		0	<1	
Lead	Silver	ppm	ASTM D5185m	>3	0	0	
Copper ppm ASTM D5185m >330 15 11 Tin ppm ASTM D5185m >15 0 <1	Aluminum	ppm	ASTM D5185m	>20	3	3	
Tin	Lead	ppm	ASTM D5185m	>40	2		
Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 3 7 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 1010 1111 924 Calcium ppm ASTM D5185m 1070 1213 1028 Phosphorus ppm ASTM D5185m 1270 1450 1195 Sulfur ppm ASTM D5185m 2060 3728 2779 CONTAMINANTS method limit/base current history1	Copper	ppm	ASTM D5185m	>330	15	11	
Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 3 7 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 <1		ppm		>15			
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 3 7 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 60 62 56 Manganese ppm ASTM D5185m 0 0 <1	Vanadium	ppm	ASTM D5185m				
Boron ppm ASTM D5185m 0 0 0 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		0	0	
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 60 62 56 Manganese ppm ASTM D5185m 0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 62 56 Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 1010 1111 924 Calcium ppm ASTM D5185m 1070 1213 1028 Phosphorus ppm ASTM D5185m 1150 1129 957 Zinc ppm ASTM D5185m 1270 1450 1195 Sulfur ppm ASTM D5185m 2060 3728 2779 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 Sodium ppm ASTM D5185m >20 <1	Boron	ppm	ASTM D5185m	0	3	7	
Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 1010 1111 924 Calcium ppm ASTM D5185m 1070 1213 1028 Phosphorus ppm ASTM D5185m 1150 1129 957 Zinc ppm ASTM D5185m 1270 1450 1195 Sulfur ppm ASTM D5185m 2060 3728 2779 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium ppm ASTM D5185m 1010 1111 924 Calcium ppm ASTM D5185m 1070 1213 1028 Phosphorus ppm ASTM D5185m 1150 1129 957 Zinc ppm ASTM D5185m 1270 1450 1195 Sulfur ppm ASTM D5185m 2060 3728 2779 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 Sodium ppm ASTM D5185m 3 3 Potassium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	60	62	56	
Calcium ppm ASTM D5185m 1 070 1213 1 028 Phosphorus ppm ASTM D5185m 1 150 1 129 957 Zinc ppm ASTM D5185m 1 270 1 450 1 195 Sulfur ppm ASTM D5185m 2060 3728 2779 CONTAMINANTS method limit/base current history1 history2 Solium ppm ASTM D5185m >25 9 7 Sodium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m	0	0	<1	
Phosphorus ppm ASTM D5185m 1150 1129 957 Zinc ppm ASTM D5185m 1270 1450 1195 Sulfur ppm ASTM D5185m 2060 3728 2779 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 Sodium ppm ASTM D5185m 3 3 Potassium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m	1010	1111	924	
Zinc ppm ASTM D5185m 1270 1450 1195 Sulfur ppm ASTM D5185m 2060 3728 2779 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 Sodium ppm ASTM D5185m 3 3 Potassium ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m	1070	1213	1028	
Sulfur ppm ASTM D5185m 2060 3728 2779 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 Sodium ppm ASTM D5185m 3 3 Potassium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m	1150	1129	957	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 7 Sodium ppm ASTM D5185m 3 3 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m	1270	1450	1195	
Silicon ppm ASTM D5185m >25 9 7 Sodium ppm ASTM D5185m 3 3 Potassium ppm ASTM D5185m >20 <1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 21.7 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 17.3	Sulfur	ppm	ASTM D5185m	2060	3728	2779	
Sodium ppm ASTM D5185m 3 3 Potassium ppm ASTM D5185m >20 <1	CONTAMINANT	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 21.7 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 17.3	Silicon	ppm	ASTM D5185m	>25	9	7	
INFRA-RED	Sodium	ppm	ASTM D5185m		3	3	
Soot % % *ASTM D7844 >3 0.3 Nitration Abs/cm *ASTM D7624 >20 9.1 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 21.7 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 17.3	Potassium	ppm	ASTM D5185m	>20	<1	1	
Nitration Abs/cm *ASTM D7624 >20 9.1 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 21.7 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 17.3	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.7 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 17.3	Soot %	%	*ASTM D7844	>3	0.3	0.3	
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 17.3	Nitration	Abs/cm	*ASTM D7624	>20	9.1	8.6	
Oxidation Abs/.1mm *ASTM D7414 >25 19.6 17.3	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	20.6	
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 7.8	Oxidation	Abs/.1mm	*ASTM D7414	>25	19.6	17.3	
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.8	7.8	



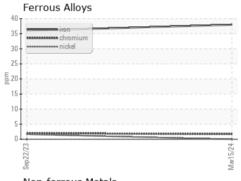
OIL ANALYSIS REPORT



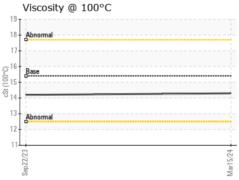
NONE	NONE	NONE	
NONE			
NONE	NONE	NONE	
NORML	NORML	NORML	
NORML	NORML	NORML	
>0.2	NEG	NEG	
	NEG	NEG	
	NONE NONE NONE NORML	NONE NONE NONE NONE NONE NONE NONE NONE NORML NORML NORML NORML >0.2 NEG	NONE NONE NONE NONE NONE NONE NONE NONE

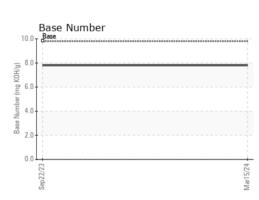
FLUID PROP	ERHES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.2	

GRAPHS



Non-ferrous Metals	
copper	
14 - sassassassas lead	
12	
10	
8	
6	
4	
2	***************************************
0 +	
Sep 22/23	Mar15/24
des	Mar
Viscosity @ 100°C	







Certificate L2367

Laboratory Sample No.

Lab Number : 06123396 Unique Number : 10937547

Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0108348

Received **Tested** Diagnosed

: 20 Mar 2024 : 21 Mar 2024 : 21 Mar 2024 - Wes Davis

GFL Environmental - 963 - Peoria HC Disposal

1113 N. Swords Ave. West Peoria, IL US 61604

Contact: Corey Dozard cdozard@gflenv.com T:

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)

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