

PROBLEM SUMMARY

Sample Rating Trend

FUEL

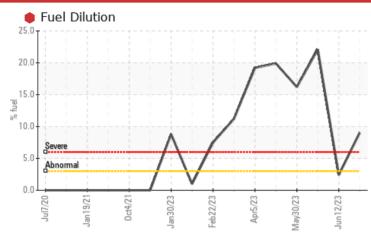
Machine Id **724001**

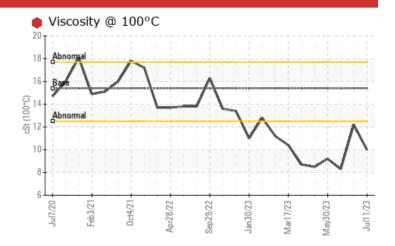
Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (12 QTS)

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS							
Sample Status				SEVERE	MARGINAL	SEVERE	
Fuel	%	ASTM D3524	>3.0	9.0	<u>^</u> 2.4	22.1	
Visc @ 100°C	cSt	ASTM D445	15.4	10.0	12.2	8.3	

Customer Id: GFL010 Sample No.: GFL0086133 Lab Number: 05901050 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS Action **Status** Date Done By Description We recommend that you drain the oil from the component if this has not Change Fluid ? already been done. Resample We recommend an early resample to monitor this condition. Check Fuel/injector ? We advise that you check the fuel injection system. System

HISTORICAL DIAGNOSIS

12 Jun 2023 Diag: Wes Davis





No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



08 Jun 2023 Diag: Wes Davis

FUEL



We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report

30 May 2023 Diag: Wes Davis

FUEL

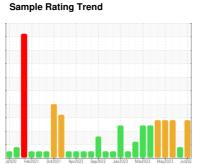


We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition. All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.





OIL ANALYSIS REPORT





Machine Id 724001 Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (12 QTS)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

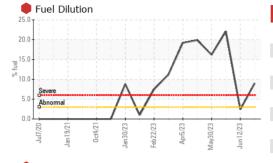
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION method limit/base current history1 history2	QTS)						
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 11690 11529 11502 Oil Age hrs Client Info 987 826 799 Oil Changed Client Info Not Changd Changed Changed Sample Status Image: Client Info Net Changed Not Changd SEVERE CONTAMINATION method Image: Client Info NEG NEG NEG WEAR METALS method Image: Client Info NEG NEG NEG WEAR METALS method Image: Client Info NEG NEG NEG WEAR METALS method Image: Client Info NEG NEG NEG WEAR METALS method Image: Client Info NEG NEG NEG WEAR METALS method Image: Client Info Neg NEG NEG WEAR METALS method Image: Client Info Neg Neg 2 2 2 2 2 2 2	Sample Number		Client Info		GFL0086133	GFL0083282	GFL0083275
Oil Age hrs Client Info 987 826 799 Oil Changed Sample Status Client Info Not Changed Not Changed Changed Changed Changed Changed Changed Changed Sample Status SEVERE MARGINAL SEVERE CONTAMINATION method limit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >90 9 2 22 Chromium ppm ASTM D5185m >90 9 2 22 Chromium ppm ASTM D5185m >2 0 0 0 Nickel ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 0 0 Copper ppm ASTM D5185m >330 <1 <1 <1 Tin ppm ASTM D5185m 0 0 0 0 V	Sample Date		Client Info		11 Jul 2023	12 Jun 2023	08 Jun 2023
Oil Changed Sample Status Client Info Not Changd SEVERE Not Changd MARGINAL Changed SEVERE CONTAMINATION method limit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >90 9 2 22 Chromium ppm ASTM 05185m >90 9 2 22 Chromium ppm ASTM 05185m >20 <1 0 <1 Nickel ppm ASTM 05185m >2 0 0 0 Silver ppm ASTM 05185m >2 0 0 0 Aluminum ppm ASTM 05185m >20 4 <1 <1 Lead ppm ASTM 05185m >330 <1 <1 <1 Copper ppm ASTM 05185m 0 0 <1 <1 Cadmium ppm ASTM 05185m 0	Machine Age	hrs	Client Info		11690	11529	11502
SEVERE	Oil Age	hrs	Client Info		987	826	799
CONTAMINATION	Oil Changed		Client Info		Not Changd	Not Changd	Changed
Silver	Sample Status				SEVERE	MARGINAL	SEVERE
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history1	history2
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >2 0 0 0 Titanium ppm ASTM D5185m >2 <1	Iron	ppm	ASTM D5185m	>90	9	2	22
Titanium	Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >20 4 <1 <1 Lead ppm ASTM D5185m >40 0 0 <1 <1 Copper ppm ASTM D5185m >15 0 0 0 0 Vanadium ppm ASTM D5185m 0 0 <1 <1 Cadmium ppm ASTM D5185m 0 0 <1 <1 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 ADDITIVES method limit/base current	Nickel	ppm	ASTM D5185m	>2	0	0	0
Aluminum ppm ASTM D5185m >20 4 <1 <1 Lead ppm ASTM D5185m >40 0 0 <1	Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Lead ppm ASTM D5185m >40 0 0 <1 Copper ppm ASTM D5185m >330 <1 <1 <1 Tin ppm ASTM D5185m >15 0 0 0 Vanadium ppm ASTM D5185m 0 0 <1 <1 Cadmium ppm ASTM D5185m 0 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 <1 0 <1 0 <1 Calcium ppm ASTM D5185m 1010 668 744 566 660 Zinc ppm	Silver	ppm	ASTM D5185m	>2	0	0	0
Lead ppm ASTM D5185m >40 0 0 <1 Copper ppm ASTM D5185m >330 <1 <1 <1 Tin ppm ASTM D5185m >15 0 0 0 Vanadium ppm ASTM D5185m 0 0 <1 <1 Cadmium ppm ASTM D5185m 0 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 <1 0 <1 0 <1 Calcium ppm ASTM D5185m 1010 668 744 566 660 Zinc ppm	Aluminum	ppm	ASTM D5185m	>20	4	<1	<1
Tin ppm ASTM D5185m >15 0 0 0 Vanadium ppm ASTM D5185m 0 <1	Lead			>40	0	0	<1
Tin ppm ASTM D5185m >15 0 0 0 Vanadium ppm ASTM D5185m 0 <1	Copper		ASTM D5185m	>330	<1	<1	<1
Vanadium ppm ASTM D5185m 0 <1				>15	0	0	0
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 24 11 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 50 55 44 Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 668 744 566 Calcium ppm ASTM D5185m 1070 924 1038 802 Phosphorus ppm ASTM D5185m 1150 791 865 660 Zinc ppm ASTM D5185m 1270 968 1049 832 Sulfur ppm ASTM D5185m 2060 2973 3220 2325 Sodium ppm ASTM D5185m >25 3	Vanadium				0	<1	<1
Boron ppm ASTM D5185m 0 0 24 11 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 50 55 44 Manganese ppm ASTM D5185m 1010 668 744 566 Calcium ppm ASTM D5185m 1070 924 1038 802 Phosphorus ppm ASTM D5185m 1070 924 1038 802 Phosphorus ppm ASTM D5185m 1150 791 865 660 Zinc ppm ASTM D5185m 1270 968 1049 832 Sulfur ppm ASTM D5185m 2060 2973 3220 2325 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 1 3 Potassium ppm ASTM D5185m					0		
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Molybdenum ppm ASTM D5185m 60 50 55 44 Manganese ppm ASTM D5185m 0 <1							
Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	0	24	11
Magnesium ppm ASTM D5185m 1010 668 744 566 Calcium ppm ASTM D5185m 1070 924 1038 802 Phosphorus ppm ASTM D5185m 1150 791 865 660 Zinc ppm ASTM D5185m 1270 968 1049 832 Sulfur ppm ASTM D5185m 2060 2973 3220 2325 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m >20 2 <1 2 Fuel % ASTM D544 >6							
Calcium ppm ASTM D5185m 1070 924 1038 802 Phosphorus ppm ASTM D5185m 1150 791 865 660 Zinc ppm ASTM D5185m 1270 968 1049 832 Sulfur ppm ASTM D5185m 2060 2973 3220 2325 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 1 3 Potassium ppm ASTM D5185m 20 2 <1 2 Fuel % ASTM D3524 >3.0 9.0 △ 2.4 ◆ 22.1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7414 >20 7.4 4.9 10.4 Nitration Abs/.1mm *ASTM D7415	Barium	ppm	ASTM D5185m	0	0	0	0
Phosphorus ppm ASTM D5185m 1150 791 865 660 Zinc ppm ASTM D5185m 1270 968 1049 832 Sulfur ppm ASTM D5185m 2060 2973 3220 2325 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m >20 2 1 3 Potassium ppm ASTM D5185m >20 2 -1 2 Fuel % ASTM D5185m >20 0 0 0 0 0 Soot % % *ASTM D7844	Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0	0 50	0 55	0 44
Zinc ppm ASTM D5185m 1270 968 1049 832 Sulfur ppm ASTM D5185m 2060 2973 3220 2325 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 1 3 Potassium ppm ASTM D5185m >20 2 <1	Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0	0 50 <1	0 55 0	0 44 <1
Sulfur ppm ASTM D5185m 2060 2973 3220 2325 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 1 3 Potassium ppm ASTM D5185m >20 2 <1 2 Fuel % ASTM D3524 >3.0 9.0 ▲ 2.4 22.1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.3 0.1 0.6 Nitration Abs/cm *ASTM D7624 >20 7.4 4.9 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 18.3 16.8 18.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25<	Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	0 50 <1 668	0 55 0 744	0 44 <1 566
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 1 3 Potassium ppm ASTM D5185m >20 2 <1 2 Fuel % ASTM D3524 >3.0 9.0 ▲ 2.4 22.1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.3 0.1 0.6 Nitration Abs/cm *ASTM D7624 >20 7.4 4.9 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 18.3 16.8 18.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.6 11.7 15.9	Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	0 50 <1 668 924	0 55 0 744 1038	0 44 <1 566 802
Silicon ppm ASTM D5185m >25 3 2 4 Sodium ppm ASTM D5185m 2 1 3 Potassium ppm ASTM D5185m >20 2 <1	Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	0 50 <1 668 924 791	0 55 0 744 1038 865	0 44 <1 566 802 660
Sodium ppm ASTM D5185m 2 1 3 Potassium ppm ASTM D5185m >20 2 <1	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270	0 50 <1 668 924 791 968	0 55 0 744 1038 865 1049	0 44 <1 566 802 660 832
Potassium ppm ASTM D5185m >20 2 <1 2 Fuel % ASTM D3524 >3.0 ● 9.0 ▲ 2.4 ● 22.1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.3 0.1 0.6 Nitration Abs/cm *ASTM D7624 >20 7.4 4.9 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 18.3 16.8 18.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.6 11.7 15.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 50 <1 668 924 791 968 2973	0 55 0 744 1038 865 1049 3220	0 44 <1 566 802 660 832 2325
Fuel % ASTM D3524 >3.0 ● 9.0 ▲ 2.4 ● 22.1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.3 0.1 0.6 Nitration Abs/cm *ASTM D7624 >20 7.4 4.9 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 18.3 16.8 18.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.6 11.7 15.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 50 <1 668 924 791 968 2973	0 55 0 744 1038 865 1049 3220 history1	0 44 <1 566 802 660 832 2325 history2
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.3 0.1 0.6 Nitration Abs/cm *ASTM D7624 >20 7.4 4.9 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 18.3 16.8 18.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.6 11.7 15.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 50 <1 668 924 791 968 2973 current	0 55 0 744 1038 865 1049 3220 history1	0 44 <1 566 802 660 832 2325 history2
Soot % *ASTM D7844 >6 0.3 0.1 0.6 Nitration Abs/cm *ASTM D7624 >20 7.4 4.9 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 18.3 16.8 18.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.6 11.7 15.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base	0 50 <1 668 924 791 968 2973 current 3	0 55 0 744 1038 865 1049 3220 history1 2	0 44 <1 566 802 660 832 2325 history2 4 3
Nitration Abs/cm *ASTM D7624 >20 7.4 4.9 10.4 Sulfation Abs/.1mm *ASTM D7415 >30 18.3 16.8 18.5 FLUID DEGRADATION method limit/base current bistory1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.6 11.7 15.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 50 <1 668 924 791 968 2973 current 3 2	0 55 0 744 1038 865 1049 3220 history1 2 1	0 44 <1 566 802 660 832 2325 history2 4 3 2
Sulfation Abs/.1mm *ASTM D7415 >30 18.3 16.8 18.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.6 11.7 15.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 50 <1 668 924 791 968 2973 current 3 2 2 9.0	0 55 0 744 1038 865 1049 3220 history1 2 1 <1	0 44 <1 566 802 660 832 2325 history2 4 3 2
Sulfation Abs/.1mm *ASTM D7415 >30 18.3 16.8 18.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.6 11.7 15.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0	0 50 <1 668 924 791 968 2973 current 3 2 2 9.0 current	0 55 0 744 1038 865 1049 3220 history1 2 1 <1 △ 2.4	0 44 <1 566 802 660 832 2325 history2 4 3 2 22.1
Oxidation Abs/.1mm *ASTM D7414 >25 14.6 11.7 15.9	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base	0 50 <1 668 924 791 968 2973 current 3 2 2 9.0 current 0.3	0 55 0 744 1038 865 1049 3220 history1 2 1 <1 2.4 history1 0.1	0 44 <1 566 802 660 832 2325 history2 4 3 2 • 22.1 history2 0.6
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >6 >20	0 50 <1 668 924 791 968 2973 current 3 2 2 9.0 current 0.3 7.4	0 55 0 744 1038 865 1049 3220 history1 2 1 <1 <1 △ 2.4 history1 0.1 4.9	0 44 <1 566 802 660 832 2325 history2 4 3 2 ◆ 22.1 history2 0.6 10.4
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 method *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7615	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >6 >20 >30	0 50 <1 668 924 791 968 2973 current 3 2 2 9.0 current 0.3 7.4 18.3	0 55 0 744 1038 865 1049 3220 history1 2 1 <1 <1 △2.4 history1 0.1 4.9 16.8	0 44 <1 566 802 660 832 2325 history2 4 3 2 22.1 history2 0.6 10.4 18.5
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D76185m Tethod	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >6 >20 >30	0 50 <1 668 924 791 968 2973 current 3 2 2 9.0 current 0.3 7.4 18.3 current	0 55 0 744 1038 865 1049 3220 history1 2 1 <1 △ 2.4 history1 0.1 4.9 16.8 history1	0 44 <1 566 802 660 832 2325 history2 4 3 2 22:1 history2 0.6 10.4 18.5 history2



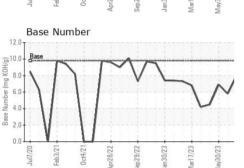
OIL ANALYSIS REPORT

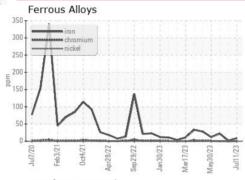


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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
Debris Sand/Dirt Appearance Odor Emulsified Water	scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual	NONE NONE NORML	NONE NONE NORML NORML NEG	NONE NONE NORML NORML NEG	NONE NONE NORML NORML NEG

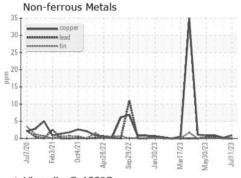
Viscosity @ 100°C

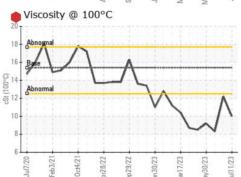
FLUID PROPE	ERTIES	method	limit/base	current	history1	histor
Visc @ 100°C	cSt	ASTM D445	15.4	10.0	12.2	● 8.3

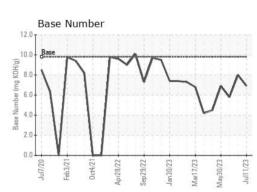




GRAPHS











Certificate L2367

Laboratory Sample No.

Lab Number

: GFL0086133 : 05901050 Unique Number : 10562406

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 18 Jul 2023 Diagnosed : 19 Jul 2023 Diagnostician : Wes Davis **Test Package**: FLEET (Additional Tests: FuelDilution, PercentFuel)

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.

GFL Environmental - 010 - Stockbridge

1280 Rum Creek Parkway Stockbridge, GA US 30281

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T:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: